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LINKING ACQUISITION DECISIONMAKING WITH NATIONAL MILITARY STRATEGY

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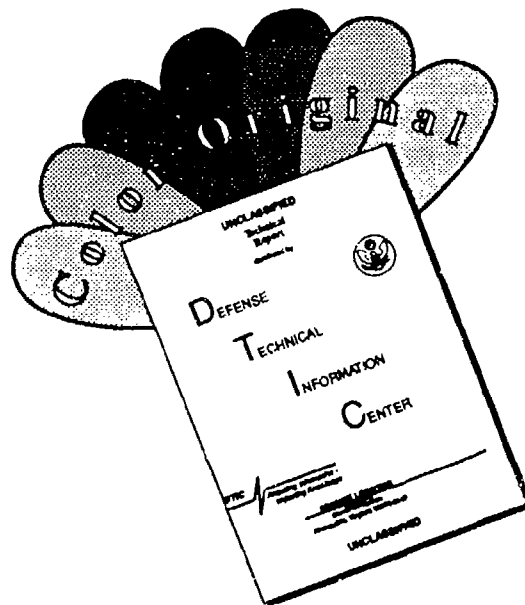
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This study describes the Defense Department's processes for planning, guidance, and decisionmaking and assesses how well they support the Secretary of Defense in developing effective, integrated military forces. First it describes the management practices advocated by the Packard Commission and earlier independent reviews of defense management, for designing and executing acquisition programs that are consistent with national military strategy and projected budgets. Next it reviews the long-standing concerns with DoD management that ultimately gave rise to the Goldwater-Nichols Act in 1986. The report then describes the resulting changes within DoD since 1986, including actions to implement Secretary Cheney's Defense Management Report. Finally, the report presents a prototype management system to illustrate one approach for establishing the advocated management practices within existing DoD organizations and processes, and offers an agenda for implementing this proposed system.

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PREFACE

This study was requested by the Office of the Under Secretary of Defense for Acquisition to provide an independent review of the management processes for linking acquisition decision making with national military strategy. The management system for strategy formulation, planning, guidance, and decisionmaking has been the subject of numerous reviews and critiques since the Department of Defense was created in 1947. Many long-standing concerns have been addressed in the management reforms that have been underway since the Packard Commission met and the Goldwater-Nichols Act was adopted in 1986. This study describes the changes that have resulted, assesses the degree to which recent reforms have resolved these long-standing concerns, outlines a prototype management system consistent with the management principles established in the Packard Commission and earlier reviews, and offers an agenda for completing Secretary Cheney's proposed reforms to implement the Packard Commission's recommendations.

This study was conducted under contract MDA 903 89C 0003; task order number T-G6-678, "Linking Acquisition Decisionmaking with National Military Strategy."

The study relied, in part, on interviews with more than 50 individuals within the Services, the Office of the Secretary of Defense, and the Staff of Congress. The authors thank these individuals for their contribution to this study.

The authors also thank the IDA review panel, which provided essential guidance at several stages of the study and reviewed earlier drafts of this report. The panel was chaired by William Y. Smith, General, USAF (Ret.), and included Dr. Jacques Gansler, Andrew J. Goodpastor, General, USA (Ret.), Professor Samuel Huntington, Dr. James G. Roche, and William Small, Admiral, USN, (Ret.).

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GLOSSARY

ACNO	Assistant Chief of Naval Operations
ADI	Air Defense Initiative
ATF	Advanced Tactical Fighter
BTI	Balanced Technology Initiative
CBRS	Combat Based Requirements System
CEO	Chief Executive Officer
CIA	Central Intelligence Agency
CINC	Commander-in-Chief
CINCEUR	Commander-in-Chief Europe
CINCUSAFE	Commander-in-Chief US Air Force Europe
CJCS	Chief, Joint Chiefs of Staff
CONUS	Continental United States
CPA	Chairman's Program Assessment
CPAM	CNO Program Analysis Memorandum
DAB	Defense Acquisition Board
DARPA	Defense Advanced Research Projects Agency
DMR	Defense Management Report
DMR	Defense Management Review
DoD	Department of Defense
DoDD	Department of Defense Directives
DPG	Defense Planning Guidance
DPRB	Defense Planning and Resources Board
DRB	Defense Resources Board
EOP	Executive Office of the President
ET	Emerging Technologies
ETD	European Theater Defense
FFRDC	Federally Funded Research and Development Centers
FOFA	Follow-on-Forces Attack
FOTL	Follow-on-to-Lance
FYDP	Five-Year Defense Plan
GNP	Gross National Product
ICBM	Inter Continental Ballistic Missile
IOC	Initial Operational Capability
IPL	Integrated Priority List
IPOM	Integrated Planning Options Memorandum

JCS	Joint Chiefs of Staff
JOPS	Joint Operational Planning System
JPAM	Joint Program Assessment Memorandum
JRMB	Joint Requirements Management Board
JROC	Joint Requirements Oversight Council
JSPS	Joint Strategy Planning System
LRCSW	Long-Range Conventional Standoff Weapon
MNS	Mission Need Statement
MTO	Mid-term Objective
NCA	National Command Authority
NMS	National Military Strategy
NMSD	National Military Strategy Document
NRTI	Naval Revolutionary Technology Initiative
NSC	National Security Council
NSDD	National Security Decision Directives
NSIA	National Security Industrial Association
NSR	National Security Review
NSSM	National Security Study Memorandum
OASD	Office of the Assistant Secretary of Defense
OOK	CNO Executive Panel
OSD	Office of the Secretary of Defense
OT&E	Operations, Test and Evaluation
PBD	Program Budget Decision
PDM	Program Decision Memorandum
PM	Program Manager
POM	Program Objective Memorandum
PPB	Planning, Programming, and Budgeting
PPBS	Planning, Programming, and Budgeting System
PPO	Program Planning Objectives
PRM	Presidential Review Memorandum
R&D	Research and Development
RDT&E	Research, Development, Test and Evaluation
SAR	Selected Acquisition Report
SCP	System Concept Paper
SDI	Strategic Defense Initiative
SDIO	Strategic Defense Initiative Office
SecDef	Secretary of Defense
TASM	Tactical Air-to-Surface Missile
TOA	Total Obligational Authority
TRADOC	Training and Doctrine Command
VCJCS	Vice Chairman of the Joint Chiefs of Staff
VCNO	Vice Chief of Naval Operations

EXECUTIVE SUMMARY

The Secretary of Defense is the senior Defense Department official responsible for developing effective, integrated military forces in support of the nation's security objectives. The defense management system is intended to support the Secretary in this task. This system should assist him in developing an overarching vision of needed defense capabilities consistent with acceptable levels of risk and available resources, as well as in overseeing the activities of the diverse and powerful component organizations charged with implementing this vision. Since the creation of the DoD following World War II, numerous reviews of the defense management system--by Presidential commissions, independent study groups, and DoD itself--have identified improvements needed to better integrate forces and programs through the development of stronger linkages between decisionmaking and national military strategy. Recent attempts to incorporate such improvements include the Goldwater-Nichols legislation (1986), the Packard Commission (1986), and a number of internal management reforms. Secretary Cheney's *Defense Management Report to the President* (DMR), issued in July of 1989, established a mandate for implementing the Packard Commission's recommendations.

This study takes stock of the progress toward implementing these reforms--and offers an agenda for their completion. During 1989 and early 1990, the study team reviewed the DoD management system as it relates to strategy and acquisition, examined the conceptual and historical issues in this area, and interviewed current DoD managers to determine what changes are being made in organizations and practices. This report summarizes the analysis, findings, and recommendations of the study. The report--

- describes a management system for planning, guidance, and decisionmaking that embodies the Packard Commission's management principles for linking decisionmaking with strategy.
- assesses existing management practices and shows how needed changes can be made within existing DoD organizations and management processes.

One general conclusion of this study is that DoD's weapon modernization programs are linked with strategy, in the sense that each Service or DoD component designs programs that support its roles and missions. However, the Secretary's ability to integrate

these programs continues to be hindered by the lack of an integrated planning framework that meshes force planning with realistic projections of defense budgets, and by the lack of an effective linkage between planning and decisionmaking. Our findings are summarized in the following three sections, which focus on each of the three main elements of the management system that support the Secretary in planning and decisionmaking.

A. STRATEGY FORMULATION, PLANNING, AND GUIDANCE

In the formal structure of the DoD, the Joint Strategic Planning System (JSPS), managed by the Chairman of the Joint Chiefs of Staff (CJCS), is intended to provide the Secretary with a recommended National Military Strategy. The CJCS also specifies the military forces capable of achieving national security objectives within prescribed budget guidelines. Drawing on this integrated planning, the Secretary develops guidance for the military departments and defense components who manage the programs that raise, arm, and equip these forces.

1. Strategy Formulation and Integrated Planning

In reviewing the defense management system, the Packard Commission and earlier defense management reviews found that these planning mechanisms had not been effective in integrating defense programs. Service-level planning was disjointed--often done within the major warfare communities within each Service--and only loosely related to overall resource constraints. Joint military planning, which could have integrated these Service plans, traditionally focused on a large "planning force" that did not reflect budget limits and, hence, provided the Secretary only a general strategic framework that did not closely translate into guidance for programming and budgeting decisions. The OSD planning processes for developing the *Defense Planning Guidance* relied largely on committee consensus and also used overly optimistic budget trends, thus precluding the early resolution of broad resource allocation issues.

These weaknesses in planning were found to contribute to two fundamental problems in the DoD management system. First, the meshing of component programs and budgets was done primarily in the programming and budgeting processes, where a well understood, unified strategic perspective was lacking. The short-range time horizon--two to five years--of programming and budgeting processes, coupled with the lack of any long-range force design for guiding decisions, caused program and budget reviews to become mired in the detail of specific, near-term budget issues. Moreover, the process did not

include effective participation from joint military officers as proponents for integrated forces.

A second broad concern was that the process did not systematically consider the long-term financial consequences of near-term acquisition decisions. Because of the long acquisition cycle, this exclusive focus on the early years' spending biased decisions toward over-commitments, which ultimately led to wasteful program cutbacks and stretch-outs. This problem was compounded in the second half of the 1980s by DoD five-year fiscal plans that overestimated the size of the defense budgets that would be ultimately approved by Congress. More recently, Secretary Cheney has issued much more conservative fiscal guidance, although there is no guarantee that even these funding levels will be realized.

Some significant changes have been made since these problems were observed. Most importantly, Goldwater-Nichols and NSDD-119 implementing the Packard Commission recommendations charge the Chairman of the JCS with defining integrated force goals linked to a range of budgets and planning scenarios in support of national military strategy. This proposed process still awaits full implementation: the goals developed in the 1989 cycle of the JSPS continued to focus on force structure for a single planning scenario, as was done in the past.

Overall, we conclude that there presently remain three areas in which the DoD-wide planning supporting the Secretary's guidance could be strengthened:

- Where the traditional process for preparing the *Defense Guidance* was largely a committee process, DoD-wide planning should be an analytical process that formulates and examines strategic choices and planning options that reflect the uncertain security environment and projected budgets.
- Where the traditional process did not explicitly link goals with resources, this planning should mesh resource and modernization planning with JSPS force planning in order to consider likely long-range resource constraints.
- Rather than produce a lengthy list of objectives and directives, the process should integrate these analyses across missions, Services, and functions in order to present the Secretary with coherent assessments of force and resource options that are related to strategy.

This study describes a prototype planning process for implementing such an approach, which is consistent with the process outlined in the Packard Commission and the DMR. The three main elements are as follows:

- **Planning Initiation:** The Secretary would begin the planning process by framing the issues to be addressed and postulating strategic options to be

explored with respect to national security goals, operational strategy, forces, and resources.

- **Analysis:** The staffs of OSD, the CJCS, and the Services would analyze these proposed options from both a force planning (net assessment) and resource standpoint. The CJCS would be responsible for postulating force development goals based on military net assessments. The Secretary's staff, supported by the military departments, would assess the investments required for those options. These assessments would yield a long-range (15-year) modernization roadmap for achieving force goals and would establish parallel goals for technology development and defense industrial infrastructure.
- **Integration:** The planning would be summarized in a format that would integrate options and analyses across missions, Services, and functions and would offer staff recommendations. The executive summary would describe the broad strategic choices and recommendations relating to national security objectives, operational strategy, forces, and resources at a level appropriate for the Secretary's review.

This process could provide the Secretary with the needed vision of strategic options and their resource implications. It would allow him to be better able to respond to--and help lead the nation through--the changing security and budgetary environment.

2. Guidance

The reviews of the defense management system have also concluded that the *Defense Planning Guidance* should be the backbone of the system, conveying the Secretary's vision and long-range goals and the roadmap for achieving them. The DMR has proposed to address these longstanding concerns by substantially strengthening the *Defense Planning Guidance*. Unfortunately, not all of the DMR's proposals have been put into action. Most significantly, the first DPG following the DMR was issued without the proposed planning scenarios, long-range goals, and roadmap.

Hence, the DoD still needs to implement the DMR's recommendations in the next cycle of the *Defense Planning Guidance* as follows:

- **Linking Planning with the *Defense Planning Guidance*.** After reviewing the alternative strategic choices, goals, and roadmaps developed through the proposed planning process outlined above, the Secretary and his senior advisors would review the *Defense Planning Guidance* and decide whether or not to modify it. (The guidance is intended to remain relatively stable once goals are established.)

- **Adopting the DMR's Proposed Structure for the DPG.** Consistent with the DMR's recommendations, the DPG should include the following:
 - Planning scenarios for several contingencies.
 - Long-range goals for forces, technology development, and the defense infrastructure.
 - A 15-year resource roadmap projecting an estimated range of budgets consistent with the Secretary's planning goals.

In providing goals and guidance, the Secretary must balance the need to be specific enough to guide decisionmaking with the need to be general enough to allow subordinate organizations the flexibility required for effective management. The need for flexibility--which is increasingly well understood in today's evolving global security environment--should also be emphasized by selecting a range of planning scenarios that represent plausible future military tasks. This study suggests prototype formats for goals, including long-range goals for forces, technology development, and infrastructure.¹ It also presents an example of a financial roadmap that summarizes the modernization programs and budgets required to achieve these goals. These prototype examples are intended to provide a starting point for developing the format for the next *Defense Planning Guidance*.

B. PROGRAMMING AND BUDGETING

The Secretary's responsibility for ensuring that near-term program and budget decisions form an effective and integrated defense program can be accomplished by ensuring that these decisions follow from the department's long-range goals. Programming and budgeting begins with the development of Program Objective Memoranda by the Services and defense agencies. These proposals are reviewed by the DoD senior staff in the Defense Planning and Resources Board (DPRB) program and budget reviews. Recent steps intended to improve the DPRB review process include establishing a single executive secretary for all DPRB activities to enhance continuity, and increased participation by joint military organizations in all phases of the process.

Experienced Pentagon practitioners strongly believe that the main reason why program and budget decisionmaking has not been more effectively linked with planning is a

¹ Although this study focuses on DoD planning and decision making, there is a growing recognition that DoD must better integrate its R&D and infrastructure programs with those of other government agencies and the commercial sector. The roadmaps for technology and infrastructure provide a management framework for addressing these issues. See Paul Richanbach, et. al., *The Future of Military R&D*, IDA White Paper, July 1990.

lack of discipline that has allowed participants to circumvent the orderly procedures built into the defense management system. They argue that we do not need a major overhaul of the programming and budgeting process; rather, procedural linkages must be made sufficiently clear--and formalized if necessary--to allow the Secretary to discipline participants to frame choices and issues in terms of long-range goals and strategic objectives.

Traditionally, a major source of this instability in the resource allocation process has been the practice of basing plans and programs on overly optimistic budget projections, which causes issues to be reopened at each stage of the process as budget top lines are ratcheted downward. Hence, more realistic budget projections for planning and programming are an important prerequisite for strengthening the linkages between planning and decisionmaking. The study describes some additional procedural linkages. First, the program and budget reviews conducted by the Defense Planning and Resources Board should begin with a review of the DPG's goals and resource roadmap. Second, program and budget issue papers should evaluate Service proposals in terms of their consistency with these goals and roadmaps, along with any other appropriate factors. Third, changes in the international security environment, projected budgets, or individual programs due to delays or cost changes, should be reflected in revised roadmaps. (Unrevised benchmarks would be maintained for execution reviews so that they would provide a perspective on cumulative program experience.)

In sum, the Secretary could establish a stronger linkage between planning and programming and budgeting by adopting procedures such as outlined above. Specifically, this study describes a process in which:

- DPRB program, budget issue papers, and reviews would *follow from* the *Guidance*. The Secretary's program and budget reviews would incorporate the DPG's long-range goals and roadmap as primary benchmarks for judging Service POMs.
- DPRB execution reviews would track program progress using the *Guidance* as benchmarks. Execution reviews would compare program execution against the DPG's goals, roadmaps, and fiscal guidance.

These steps would provide a far more explicit linkage between planning and decisionmaking than exists today. They would contribute to continuity in decisionmaking, and provide a basis for tying near-term decisions to long-range strategic considerations.

C. ACQUISITION DECISIONMAKING PROCESSES

As with programming and budgeting, the processes for defining the individual acquisition programs that form the building blocks of the military forces also should be linked with the planning process. Programs are generally defined within the "requirements processes" established by the Service warfare communities and defense agencies. The Defense Acquisition Board (DAB) and the JCS Chairman's Joint Requirements Oversight Council (JROC) are the principal acquisition oversight mechanisms for ensuring that individual acquisition programs fit within an integrated and effective force.

The Packard Commission and earlier reviews found that the lack of an integrated framework for defining and reviewing acquisition programs created two basic deficiencies in the process: First, in the absence of such a framework, the Services and defense agencies that originate program requirements lacked the integrated planning scenarios and roadmaps needed to ensure that their programs were consistent with overall modernization objectives. Consequently, they have tended to focus on the modernization needs identified by their respective warfare communities. When action has been taken to integrate the proposals of these communities--in order to fill gaps, eliminate overlaps, or develop new technological approaches--such action has largely taken the form of *ad hoc* interventions by the Secretary of Defense, President, or Congress. There have been numerous examples over the years, including the Polaris missile, the cruise missile, and several aircraft programs. Hence, the Services have not monopolized the process for defining programs, but at the same time, the DMR's proposed roadmap would provide the Secretary with a more coherent and effective mechanism for integrating programs.

Second, the Defense Systems Acquisition Review Council (now renamed the DAB) lacked the needed perspective and process for examining broad tradeoffs across programs and for considering long-range program affordability. Hence, these reviews examined programs on their individual merits, rather than judging them in the context of overall modernization objectives.

This study describes how the DMR's proposed roadmap could be used in DAB decisionmaking to address both of these concerns. The proposed procedures are as follows:²

² DoD is presently revising the 5000 series regulations governing acquisition. These new regulations are moving in the direction of the proposals outlined here.

- At Milestones 0 and I of a proposed new program, the DAB should manage a competition of ideas among technologies, approaches, and sponsors to ensure that appropriate options are explored within each investment area.
- Milestone II, when significant resource requirements begin, should be the main decision point for committing to the production of a particular program.³ At this point the DAB, DPRB, and JROC should ensure a selected program fits within the overall roadmap for modernization--programs passing Milestone II are thus consistent with strategy and projected budgets.
- The DAB should confirm the validity of program-level data relating to costs, performance, threats, and schedules as a basis for decisionmaking, particularly at Milestone II.

These procedures would broaden the focus of the DAB from reviewing individual programs on technical and administrative grounds to the management of an overall modernization program within the parameters established in the Secretary's modernization roadmap.

D. CONCLUDING REMARKS

The recommendations offered in this report reflect the view that a major overhaul of the defense management organizations and processes is not required to create substantially stronger linkage between strategy, planning, and decisionmaking within DoD. Major changes in recent years lay the groundwork for effective long-range planning, and the agenda offered here can establish improved practices within the existing framework. This is not to say that the proposed changes are marginal or easy to implement; adopting the practices outlined above will require a concentrated long-term effort by the Secretary and his senior staff.

It is sometimes argued that planning is impossible in strategically uncertain times such as today. However, it is precisely in such times that effective planning is most valuable. After several years of relative stability, it is necessary now to reassess the appropriate options for future military forces across missions, Services, and deployment

³ As this report was being prepared for publication, the 1990 Defense Science Board Summer Study proposed an R&D strategy for the 1990s that would establish a multitrack acquisition process. The acquisition decisionmaking paradigm described in this report would apply to the DSB's "mainstream" programs, which include traditional major acquisition programs. The DSB's proposed "fast track" prototype programs are not intended to be deployed in large numbers, and therefore could pass Milestone II and enter full-scale development without identifying production funding in the investment roadmap. See, 1990 Defense Science Board Summer Study: "R&D Strategy for the 1990's, Summary Briefing," undated.

status. A systematic assessment of plausible strategic choices and budget alternatives would increase the Secretary's ability to manage uncertainty, adapt to unfolding events, and provide the needed leadership in the national political process. Important planning issues have been, or are being, addressed throughout the defense community, including the major aircraft review, the major warship review, and the total force study. The proposed management system provides a mechanism for integrating the results of these diverse analyses and relating them to broad strategic choices and projected budgets.

Finally, it should be emphasized that this study has focused on the internal management of the DoD. However, introducing a longer range perspective in defense decisionmaking requires cooperation throughout the national security decisionmaking apparatus, especially between the executive and legislative branches. If there is no political consensus on national security objectives and budgets, improvements in the DoD management system alone cannot ensure that resources are efficiently used to develop an effective military force at an affordable level. Hence, the DoD-related proposals outlined in this study provide only one building block for an improved defense management process. The principles outlined by the Packard Commission and earlier defense management reviews, which would emphasize a longer range perspective in defense decisionmaking, should be adopted in both the executive and legislative branches.

I. INTRODUCTION

In his role as the principal architect of the nation's military forces, the Secretary of Defense must advise the President and Congress on how best to allocate limited resources among the alternative Service and defense agency programs proposed for operating, maintaining and modernizing forces. Integrating these proposed programs effectively across missions and functions, and over time, is the essence of linking program decisionmaking with the national military strategy. This study examines the defense management system as it has evolved to support the Secretary in this task.

The three main elements of the formal defense management system that are the focus of this study include the processes for:

- Strategy formulation, planning, and guidance;
- Programming and budgeting; and
- Defining major acquisition programs.

As the defense management system is currently organized, the Secretary's responsibilities for strategy formulation and planning are supported by the Chairman of the Joint Chiefs of Staff (CJCS). He proposes a National Military Strategy, and describes a broad mosaic of total forces needed to achieve national security objectives. Drawing on this design, the Secretary guides and reviews the programs of the military departments and defense components.

DoD programming and budgeting begins with the development of proposals by the Services and defense agencies. These proposed programs are reviewed by the Secretary in the Defense Planning and Resources Board (DPRB) in which the comprehensive DoD programs and budgets are forged. Individual major acquisition programs are reviewed in the Defense Acquisition Board (DAB). Employing these management processes, the Secretary is responsible for defining and selecting the most effective programs that fit appropriately within the mosaic of forces and for allocating resources to achieve an appropriate balance among programs.

The subject of this study--how the defense management system can best be organized and employed in designing effective, integrated forces--has been a central theme

in defense management since the founding of the department following World War II. In proposing the formation of the DoD in December 1945, President Truman described to Congress the need for "unified direction of land, sea and air forces." The first reason he gave for creating a new Department of National Defense was as follows:

*We should have integrated strategic plans and a unified military program and budget. . . . We cannot have the sea, land and air members . . . planning their programs on different assumptions as to the nature of the military establishment we need. (emphasis added)*¹

In the 45 years since then, numerous Presidential commissions and independent studies of defense management have examined DoD organizations and management processes for planning and decisionmaking. They have considered the appropriate framework for designing a unified military force, as well as for implementing such a design in day-to-day decisionmaking.

These reviews have consistently concluded that the required defense management system calls for a strong process for strategy formulation, planning, and guidance within the joint military organizations and the Office of the Secretary of Defense (OSD). Recent attempts to redress the long-standing concerns with planning and guidance include the Packard Commission (1986) recommendations, the Goldwater-Nichols legislation (1986), and a number of internal OSD management reforms. Secretary Cheney's *Defense Management Report to the President* (DMR), issued in July of 1989, established a mandate for completing the Packard Commission's agenda for improving DoD planning and guidance.²

A. PURPOSE AND SCOPE

This study revisits these issues in view of the many changes made in the defense management system in recent years. The specific tasking was to assess "the degree to which the development and acquisition of weapon systems is currently linked to and determined by the national military strategy and to recommend improvements where necessary or desirable." The study was commissioned by the Office of the Under

¹ Alice C. Cole, Alfred Goldberg, Samuel A. Tucker, Rudolph A. Arimaker, eds., *Documents of the Department of Defense*, (Washington, DC: Office of the Secretary of Defense Historical Office, 1978), pp. 7 and 11.

² Packard Commission, *A Quest for Excellence, Final Report to the President by the Blue Ribbon Commission on Defense Management*, (Washington, DC: U.S. Government Printing Office, 1986), p. 10.

Secretary of Defense for Acquisition (USD(A)), in part to respond to a Congressional request in the FY 1989 Authorization Act (see Exhibit I-1). It was intended to provide:

- A conceptual framework for integrating acquisition decisionmaking with national military strategy;
- A description of how existing...[organizations and processes]...work and interrelate--both in theory and in practice;
- Alternatives for possible improvements; and
- A recommended course of action.³

This report summarizes the study and our findings and recommendations.

To put this study in perspective, two observations are in order. First is that the United States has had a fairly clear, overarching strategy since World War II, based on containment, deterrence, and forward defense. As world events and the specific elements of that strategy have evolved, so too has the implementation of that strategy. In the main, U.S. forces have adapted to the strategy, as demonstrated by shifting mission emphasis and deployments over the years. In addition, in a qualitative sense, virtually all weapons can be said to be linked to our basic strategic goals since each contributes in some way to warfighting capability. Therefore, the primary question that was addressed in this study was not whether strategy exists or whether our forces are linked with strategy, but rather how the linkage could be strengthened and resources apportioned more effectively through improvements in the management system supporting the Secretary of Defense. Because the focus of this study is on management practices, we neither evaluate the National Military Strategy nor evaluate the current defense program or budget. Political decisionmaking processes are addressed only to the extent that these processes affect the Department's ability and incentives to plan.

The second observation is that problems in introducing a long-range perspective in defense decisionmaking have roots that extend throughout the national security decisionmaking apparatus. Shaping a long-term, integrated defense program requires some measure of consensus and cooperation within the national-level political decisionmaking process. A degree of goodwill between the President and Congress is required to establish a consensus on a course of direction for defense among national-level policy makers; otherwise, the process inevitably degenerates. The management system proposed in this

³ These are quoted from the project task order, IDA task order number T-G6-678.

Exhibit I-1. Congressional Concerns and the Study Mandate

SEC. 7.32. LINKAGE OF NATIONAL MILITARY STRATEGY AND ACQUISITION PROGRAMS

(a) FINDINGS.--Congress makes the following findings:

(1) *The Final Report to the President by the President's Blue Ribbon Commission on Defense Management (the "Packard Commission"), the Defense Acquisition Study of the Center for Strategic and International Studies, and the Report of the Commission on Integrated Long-Term Strategy (referred to as "Discriminate Deterrence") have separately identified significant deficiencies in the integration of weapon acquisition programs of the Department of Defense with national military strategy.*

(2) *There is no established process involving the Office of the Secretary of Defense and the Joint Staff in which strategy, policy, operational concepts, and resource constraints are fully debated, coordinated, and translated into weapon acquisition programs. The dominant role of setting requirements for new weapon systems remains with the headquarters staffs of the military departments, and the requirements developed by those departments often do not appear to have been rigorously evaluated in terms of their overall contribution to national military strategy.*

THE
ISSUES

(3) *The requirements and planning process of the Department of Defense is not constrained by realistic projections of future defense budgets. Consequently, the process is fiscally unrealistic and, therefore, largely ignored in the subsequent planning and budgeting process. This process often results in disparate plans that do not optimize the potential contribution of the acquisition programs of each military department to the objectives of national military strategy.*

(b) SENSE OF CONGRESS.--In light of the findings in subsection (a), it is the sense of Congress that--

(1) *to ensure that the United States develops and acquires the proper mix of weapon systems to support national military strategy most effectively and efficiently, the Office of the Secretary of Defense and the Joint Staff should better define the links between national military strategy and specific acquisition programs;*

(2) *the Office of the Secretary of Defense, the Joint Staff, and the headquarters of the unified and specified combatant commands should more clearly define the necessary operational capabilities and concepts of operations as part of the requirements process and should explicitly consider alternative acquisition programs based on probable levels of resources likely to be approved by Congress and trade-offs among the acquisition programs of the military departments;*

(3) *the Secretary of Defense should ensure that resulting acquisition programs clearly reflect the objectives of national military strategy; and*

(4) *the Secretary of Defense should commission an independent study to assess the degree to which the development and acquisition of weapon systems is currently linked to and determined by the national military strategy and to recommend improvements where necessary or desirable.*

THE CHARGE
TO THE
STUDY GROUP

Source: National Defense Authorization Act, Fiscal Year 1989, Conference Report to Accompany H.R. 4264, U.S. House of Representatives, 100th Congress, 2d Session Report 100-753, Government Printing Office, Washington, DC, July 7, 1988, pp. 90-91.

study is intended to help the Secretary provide needed leadership in national-level decisionmaking councils, but adopting this system will not in itself solve the problem from the broader national perspective.

B. HISTORICAL PERSPECTIVE

The Department of Defense and the position of the Secretary of Defense were created in 1947 in large measure to establish a comprehensive authority within the executive branch that could be given the responsibility, staff, and procedures for integrating the programs of the individual military branches into a coherent overall program that best meets national security objectives. Over the years since then, several attempts have been made to improve the Secretary's ability to accomplish this task, and a large number of independent studies have assessed the adequacy of the existing organizations and processes.

Several studies of lasting historical significance have been undertaken. Those that have addressed how planning and decisionmaking contribute to defining integrated defense programs are reviewed in this section:

- The President's Blue Ribbon Defense Panel (Fitzhugh Commission, 1970);
- The Commission on Government Procurement (1972);
- The Defense Organization Study (1979);
- The Carlucci Initiatives (1981);
- Toward a More Effective Defense (1985); and
- The Blue Ribbon Commission on Defense Management (Packard Commission, 1986).

These studies were reviewed by the study team to provide an historical perspective on the issues addressed in this study, and to illustrate the kind of management system that has been recommended by outside reviewers over the years.

The management issues relevant to relating acquisition decisions to national strategy have their roots in World War II. President Truman's 1945 message to Congress on National Security was wide-ranging and explicit in describing the unsatisfactory nature of the planning and command relationships, the lack of "unified direction of land, sea and air forces."⁴ As we shall see, these words have been echoed throughout the post-World War II era by civilian and military officials and independent reviewers of the defense

⁴ Cole, et. al., op. cit., p. 7.

management system. Thus, issues addressed in this study should be judged based on a 40-year history of attempts to create the needed defense management system.

The compromise that produced the DoD and unification in 1947 left the Army and Navy intact as departments, and created a third one, the Department of the Air Force. A formal allocation of tasks was included in the compromise, part included in the statute, part in an Executive Order. There was no Chief of Staff of the Armed Forces, who would make recommendations on strategy and budget. Some research activities were to be coordinated by a Research and Development Board, composed of a Chairman and representatives of each military department, rather than a separate office reporting to the Secretary of Defense.

The experience in the early days of the DoD is summed up by General David Jones, a former Chairman of the Joint Chiefs of Staff, in his reflections in 1983 on the evolution of the defense management system:

President Truman's attempt to rectify the problem encountered a great deal of resistance and generated a great debate within Congress. The resulting National Security Act of 1947 created a National Defense Establishment and a secretary of defense, but the latter's authority was severely constrained and little was done to solve the fundamental organizational problems.

Although the secretary's authority was significantly increased by changes in 1949 and 1953, the individual services--including the newly independent Air Force--continued to dominate defense matters. This was borne out by President Eisenhower, who in a 1958 Message to Congress stated, 'the truth is that most of the service rivalries that have troubled us in recent years have been made inevitable by the laws that govern our defense organization.'⁵

The passage of the "Department of Defense Reorganization Act of 1958" in August 1958 reflected President Eisenhower's frustration with what he saw as unnecessary and inefficient, but inevitable, inter-Service rivalry and duplication and the Secretary's lack of control over the development of new weapons.⁶ The new Act established the authority of the Secretary of Defense to create agencies to deal with common problems and to assign and transfer functions among the Services and Agencies.⁷ In particular he was authorized

⁵ David C. Jones, "Introduction," in Archie D. Barrett, *Reappraising Defense Organization*, (Washington, D.C.: National Defense University Press, 1983).

⁶ The text of messages and laws, with some discussion, is presented in Cole, et. al., op. cit., pp. 3-5.

⁷ These powers were not unlimited. Certain of his actions were still subject to a veto by either the House of Representatives or the Senate (Ibid., pp. 197-198).

to assign development of new weapons to any department or agency and operational use to any Service.

These reforms provided the legal and political muscle for Secretary Robert McNamara to assert his leadership over the DoD. His management innovations of the early 1960s, sharply controversial, included the forceful application of the strengthened authority of the Secretary of Defense and the establishment of the Planning, Programming, and Budgeting System (PPBS). Both were unquestionably significant improvements whose full potential is still to be realized. To establish the linkage between national strategy and decisionmaking, McNamara established a system of "Draft Presidential Memoranda" (DPMs) that provided overviews of the various missions on a DoD-wide basis, emphasizing missions rather than Services. In addition, program execution was centralized through a number of DoD-wide Agencies that were to rid the DoD of Service parochialism--at least in a number of DoD activities and programs.⁸

The McNamara reforms were less successful in centralizing decisionmaking than either their opponents or proponents claimed. Thus the Fitzhugh Commission (1970) reported:

Despite the broad authority vested in the Secretary of Defense by the National Security Act of 1947, as amended, experience demonstrates that in practice, the tools available to the Secretary to exercise effective control of the Department are seriously deficient.

The continuing inter-service competition seriously degrades the decision-making process through obfuscation of issues and alternatives, and leads to attempts to circumvent decisions, repeated efforts to reopen issues that have already been decided, and slow unenthusiastic implementation of policies to which a Service objects.

The results of such 'parochialism' are, for example, reflected in the development of the AX aircraft by the Air Force and the Cheyenne aircraft by the Army for the close air support role; the lack of enthusiasm for airlift expenditures by the Air Force and the Fast Deployment Logistics program by the Navy, both intended to support the Army; the organization of the operational command structure to provide a balance among the Services for senior officer billets; and the continued failure to resolve the issue of the best balance between land and carrier-based tactical air.⁹

⁸ For a discussion of the use of analysis see Enthoven and Smith, *How Much Is Enough*, (New York, Harper and Row, 1971) and Clark A. Murdock, *Defense Policy Formation: A Comparative Analysis of the McNamara Era*, (State University of New York Press, 1974), see especially pages 45-50.

⁹ Fitzhugh Commission, *Report to the President and the Secretary of Defense on the Department of Defense*, (Washington, DC.: Department of Defense, 1 July 1970), p. 21. The report is reprinted in its entirety in *Defense Acquisition: Major U.S. Commission Reports (1949-1988)*, Vol. 1, prepared for

In reviewing the status of the defense management system, the Fitzhugh Commission concluded that "[T]he Secretary of Defense does not presently have the opportunity to consider all viable options as background for making major policy decisions, because important options are submerged or compromised at lower levels of the Department. ...A need exists for an independent source of informed and critical review and analysis of military forces and other problems--particularly those involving more than one Service, or two or more competitive or complementary activities, missions, or weapons."¹⁰ The Commission concluded:

There is no organizational element within OSD that is charged with the responsibility for broadly supporting the Secretary of Defense in long-range planning which integrates net assessments, technological projections, fiscal planning, etc. ...In order to provide an overall balance of forces, to prevent wasteful duplications, and to develop effective but more economical alternatives to those conditioned by traditional approaches of the Military Services, OSD requires an internal long-range planning capability. ...To the extent such a capability exists in the current OSD organization, it is too fragmented and too limited by the pressure of more immediately urgent assignments to be effective.¹¹

One of the Commissions recommendations was therefore to create a long-range planning group "for the purpose of providing staff support for the Secretary of Defense with responsibility for long-range planning which integrates net assessments, technological projections, fiscal planning, etc."¹² In any case, this was one of only two recommendations that was explicitly rejected by the DoD.

The Commission also supported the inclusion of fiscal guidance into the PPBS, as well as separate JCS input via a Joint Forces Memorandum. Despite the Commission's concerns with Service parochialism, and its support for measures already undertaken to strengthen the JCS as a separate entity, there were no additional recommendations to change the role of joint organizations in the process, or to improve the Secretary of Defense's ability to control the Services' weapon planning activities.

use of the Defense Policy Panel and Acquisition Policy Panel of the Committee on Armed Services, House of Representatives, 100th Congress 2nd Session (Washington, DC.: U.S. Government Printing Office; November 1988), pp. 139-384.

¹⁰ Fitzhugh Commission Report, op. cit., p. 29.

¹¹ Ibid., p. 31.

¹² Ibid., p. 59. *Documents of the Department of Defense*, op. cit., pp. 258-259.

In 1972, the Commission on Government Procurement went over some of the same ground, with more emphasis on acquisition and procurement.¹³ The Commission's Report emphasized at length the lack of systematic attention to establishing mission needs for new systems in approved, clearly defined mission areas. It said that the right questions were asked too late, when systems had been fully developed, and alternative options ruled out. It also emphasized the early use of competing system concepts, and competing contractors, as a way to generate information about the best attainable candidates for improving the forces. It spoke at length about the problem of cost growth and the need for reliable, forward-looking cost estimates early in development.

In the second half of the 1970s, President Carter initiated a number of organizational studies of the Executive Departments. *The Defense Organization Study*--commonly referred to by the names of the three directors of its component studies, the *Ignatius Report*, the *Steadman Report*, and the *Rice Report*--addressed departmental headquarters, the national military command structure, and defense resource management respectively.¹⁴ Again, the needed rebalancing of Joint versus Service influence in decisionmaking was addressed. The three studies once again expressed concern that the defense organization, as then constituted, was unable to offer timely joint military advice, whether on long-range planning, resource allocation, or even military operations. The Services were seen to overshadow the Joint Staff and the Commanders-in-Chief (CINCs) and their organizations.

At the outset of the Reagan administration, early in 1981, Deputy Secretary Frank Carlucci reviewed the DoD PPBS and developed a detailed proposal to alter it.¹⁵ His proposals emphasized "...a system of centralized control of executive policy direction and more decentralized policy execution."¹⁶ He described a system in which he and the Secretary would

...concentrate on major policy decisions, definition of planning goals and the allocation of resources necessary to strengthen the horizontal integration of our four Services into a balanced Armed Forces Team to meet our national military strategy. To support these policies and plans, we will hold

¹³ *Report of the Commission on Government Procurement*, (Washington, D.C., December 1972.)

¹⁴ For a description of these studies, see Barrett, *Reappraising Defense Organization*, op. cit. p. 2.

¹⁵ Frank C. Carlucci, *Management of the DOD Planning, Programming and Budgeting System*, Memorandum For Secretaries of the Military Departments and others, March 27, 1981.

¹⁶ *Ibid.*, p. 1.

each of the Service Secretaries responsible for the development and execution of the necessary programs and the day-to-day management of the resources under their control. Through this *controlled decentralization* [emphasis added], subordinate line executives will be held accountable for the execution of our approved programs and policy decisions.¹⁷

In the area of planning, he said:

...we must both improve strategic planning in the early planning phase of the PPBS cycle and strengthen long-range planning throughout the other phases of the PPBS. This calls for a more disciplined planning process that will provide the framework, goals and objectives, the appropriate military strategies, and the risks associated with the optimum allocation of available resources.... We need...to assure realistic, serious, and pragmatic strategic planning.¹⁸

Thus it is clear that Deputy Secretary Carlucci saw the same problems with the planning system that had been observed by earlier officials and commissions, i.e., the Secretary needed a mechanism to define and translate military strategy into acquisition programs. On the other hand, there appears to have been less concern about control of the Services and the ability of the President and the Secretary of Defense to control the Service programs. To the contrary, the concern was that the system was over centralized, not only in the management of weapons acquisition programs, but in the determination of those programs.

In the early 1980s concerns continued to grow regarding defense management and the degree to which Service programs were integrated by the Administration's policies of controlled decentralization. In 1985, an independent panel of defense experts conducted an in-depth and extensive review of defense management issues. With respect to the contribution made by strategy formulation and planning in defining integrated defense programs, the panel concluded that OSD's strategic and policy thinking did influence decisions. However, rather than making an integrated contribution to the planning phase, they found that "OSD relies on detailed involvement in individual program and budget decisions to produce, inferentially, an overall military plan."¹⁹

The panel also found that "joint military planning is not constrained by realistic projections of future defense budgets. Consequently, ...JCS planning documents are

¹⁷ Ibid., p. 1.

¹⁸ Ibid., p. 2.

¹⁹ Barry M. Blechman and William J. Lynn, *Toward a More Effective Defense: Report of the Defense Organization Project*, (Cambridge, Massachusetts: Ballinger Publishing Company, 1985), p. 26.

ignored in the the programming and budgeting process."²⁰ To remedy this, the panel recommended two measures [that] would make the planning phase more meaningful:

1. The responsibilities of the Under Secretary of Defense for Policy should be expanded to ensure that program and resource decisions reflect mission-oriented planning.
2. The chairman of the JCS, with the assistance of the Joint Staff, should be charged with preparing force planning recommendations constrained by realistic estimates of available resources.²¹

In the area of planning for acquisition, the panel recommended that the Department develop an overall, long-range capital investment roadmap. The panel concluded that OSD has not provided the needed "overall framework and set of guidelines within which Service acquisition decisions can be supervised and coordinated. The military Services thus develop weapons independently, each according to its own sense of national priorities."²² The two main purposes this roadmap would serve were described as follows:

First, it would integrate long-range Service acquisition plans, providing a road map in each major mission area that linked national strategic objectives with major acquisition programs. Second, it would serve to highlight the aggregate demand on the overall resources that the Department of Defense is likely to have available over the next fifteen years, forcing early assessments of the tradeoffs that competing commitments to major weapon systems make necessary. In this manner, the plan would help focus greater attention on the costs of burdening the budget with too many major program starts.²³

The problems that such over-commitments create in managing individual weapon programs had been emphasized in two earlier studies. In 1978, a Defense Science Board task force concluded that taking on too many programs "causes an increase in the length of the acquisition cycle...[and]...also results in increased acquisition costs due to the costs of inflation and the costs of constant reprogramming."²⁴ A subsequent study by the Air Force Systems Command reached a similar conclusion after studying the experience with the programs it managed:

The study established that program instability (large unplanned changes in program funding and/or schedule) is the major causative factor of cost and

²⁰ Ibid., p. 26.

²¹ Ibid., p. 27.

²² Ibid., p. 32.

²³ Ibid., p. 33.

²⁴ "Report of the Acquisition Cycle Task Force: Defense Science Board 1977 Summer Study." (Washington D.C.: Office of the Under Secretary of Defense for Research and Engineering, 15 March, 1978.) p 83.

schedule growth. Further the study demonstrated that program instability results directly from the compounding effects of real cost growth...and budget reductions below the levels projected at the time of program initiation.²⁵

This study concluded there was a need for an Air Force planning organization that would develop 15-year investment plans reflecting realistic budget constraints. Acquisition programs would be stabilized by adopting a "most-likely budget approach" and limiting new program starts to those that fit into the investment plan.²⁶

Amid the pressure for reform in the mid 1980s, President Reagan established the Blue Ribbon Commission on Defense Management (the Packard Commission). The Commission's reports in 1986 covered a wide array of issues, including strategy formulation, acquisition, the organization of OSD, and the roles of officers in joint assignments. The reports spelled out steps for a thorough overhaul of the acquisition system and specified in more detail than earlier commissions the needed strategy formulation and planning process. They also recommended overhaul of the lines of command authority in JCS and the theater commands, so as to increase the roles of CJCS, the Joint Staff, and the theater commanders. The Commission also recommended creating the position of the Vice Chairman of the JCS, with broad authority in reviewing military requirements and acquisition processes.

In the area of strategy formulation and planning, the Commission stated its position in its chapter on national security planning:

There is a need for more and better long-range planning to bring together the nation's security objectives, the forces needed to achieve them, and the resources available to support those forces. It is critically important that this relationship be clearly established through a national military strategy.²⁷

The Commission proposed a strengthened national security planning process centered around the President, the Secretary of Defense, and the CJCS. The proposed process would examine strategy and budget alternatives and identify potential program tradeoffs, defining the overall direction for defense programs.

Following these two major studies, the most thoroughgoing reforms of the defense establishment in more than 25 years were effected through the Goldwater-Nichols

25 "Affordable Acquisition Approach." (Andrews Air Force Base, Maryland: Air Force Systems Command, February, 1983.) p ES-6.

26 Ibid. p ES-9.

27 Packard Commission, *A Quest for Excellence*, op. cit., p. 10.

legislation, which significantly revised the joint military organizations and created a much stronger joint voice in defense decisionmaking. As discussed in some detail in the body of this report, the CJCS is working to create the joint military organizations and practices needed to implement fully the mandate of this legislation. However, the Bush administration came to office in 1989 amid concerns that the Packard Commission recommendations were not being fully adopted and questions about the pace of implementation of the Goldwater-Nichols legislation. In the light of these concerns and the 40 years or more of concern with the DoD management system, the new Administration prepared its *Defense Management Report to the President* (DMR) to take stock of the management system and determine what remained to be done. Presently, the DoD is pursuing the reform agenda established in the DMR. The status of these ongoing activities is a primary focus of this report.

This brief summary shows that underlying the many studies of the defense management system has been a consistent vision of a management process that would support the Secretary in defining integrated defense programs. Since World War II, the nation has struggled with parallel and closely connected problems: defining national strategy and organizing to execute it. Over and over, Presidents, Presidential Commissions, and independent observers have expressed the concern that without an effective integrating framework, the individual Services' pursuit of the national military strategy--tempered by their traditional views of their roles and missions--has not created the most effective overall force with the resources that have been made available. The solutions proposed have varied in detail, but they have invariably proposed the development of a strengthened top-level process for defining integrated defense programs which can guide the Secretary's specific near-term decisions.

C. OVERVIEW OF THE REPORT

This report summarizes our study of how the defense management system has changed in recent years and the extent to which these changes have achieved the management system envisioned in Secretary Cheney's DMR, the Packard Commission recommendations, and the host of earlier independent reviews conducted throughout the post-World War II era.

First, Chapter II summarizes several principles for defense management that have been established by these commissions and reviews. This discussion is structured to address four basic issues involved in the design of any management system. These basic issues are:

- **Balancing Organizational Participation and Perspective in the Management System.** What is the proper balance of participation among the Services, joint military organizations, and civilian leadership needed to attain the right blend of expertise and perspective in planning and decisionmaking?
- **Framing the Issues Addressed.** The management system must address the right issues. Two aspects of particular concern for acquisition decisionmaking are:
 - Time Horizons and Uncertainty: How far into the future must planning look to guide decisions, and how should planning and decisionmaking be structured to achieve the management flexibility needed to accommodate and hedge adequately against an uncertain future security environment?
 - The Treatment of Resource Constraints: How should anticipated resource constraints be incorporated to ensure the realism of planning and decisionmaking, given the inherent uncertainty in future events and the national budgeting process?
- **Establishing Links Between Planning, Decisionmaking, and Execution.** What is the proper balance between Secretarial guidance for Service and defense agency programs that is sufficiently specific to guide the decisions, while still providing subordinates sufficient discretion to manage effectively?
- **Disciplining the Process.** How should the Secretary discipline decisionmaking processes to ensure that near-term decisions reflect the overall direction established in this guidance?

The management studies we reviewed have consistently recommended a strong, top-level strategy formulation and long-range planning function for guiding defense decisionmaking. With respect to participation in the process, they have emphasized that the design of military forces requires a breadth of perspective that is *long-range, integrated, and global*. Incorporating this perspective in defense decisionmaking requires a careful balancing of the participation of the Department's civilian, joint military, and Service leadership in a systematic planning process.

In framing issues, planning must look 10, 15 or more years into the future because of the long development and life cycles of acquisition programs. However, to address

inherent strategic and budgetary uncertainties, this planning must address a range of alternatives. Of particular concern has been the need to mesh planning analyses for resources with the long-range national security planning. This is necessary to ensure that plans are realistic and can be executed efficiently given the resources likely to be available. There is a basic tension between strategic planning, which should be long-range in perspective, and the inherent short-range perspective of budget planning and execution. This report tries to resolve this tension through the linkage of these two processes.

Planning to provide adequate guidance must define long-range goals for developing military capabilities that best meet national security objectives within available budgets in such a way that these can be related to near-term decisions. Finally, there is a strongly held belief that an emphasis on disciplining processes is the most important key to ensuring the proper operation of the management system because there are such strong incentives among component organizations to circumvent and game the process. These basic views of defense management, and the associated specific management criteria, provide the benchmarks for assessing recent changes and current practices in the defense management system.

Chapters III, IV, and V summarize the findings of this review for the processes relating to planning and guidance, resource allocation, and acquisition program definition, respectively. Each chapter summarizes historical management concerns, critiques traditional practices and recent reform efforts, and assesses current practices. The analysis considers four major organizational categories:

- National-level participants: the Executive and Legislative Branches;
- The Secretary and the Office of the Secretary of Defense;
- The Chairman of the JCS and the Joint Military Organizations; and
- The Services and other DoD component organizations.

We consider how these organizations and processes operate and interact to perform their management functions. To assess the current operation of the system, we reviewed available formal documentation and interviewed officials within OSD, the joint military organizations, and the Services. In all, more than 50 interviews were conducted in the course of the study.

It is apparent that the defense management system is evolving to redress some of the long-standing deficiencies identified over the years. Most importantly, the changes stemming from the Goldwater-Nichols Act have significantly increased the potential voice of joint military organizations as proponents for effective, integrated forces. There have

also been significant internal OSD management reforms, including those begun last summer following Secretary Cheney's DMR to the President. The DMR proposed important changes in the Secretary's guidance, both in terms of its content and the planning process for its development. Secretary Cheney has commissioned a number of planning studies to address major issues relating to the changing security and budgetary environment. He has also issued substantially more conservative fiscal guidance for planning in the first half of the nineties than had been the case throughout most of the previous decade.

Despite these recent improvements, further steps are needed to implement the kind of defense management system envisioned in Secretary Cheney's DMR, the Packard Commission, the Goldwater-Nichols Act, and in the host of earlier independent management studies. In particular, several features of the DMR's proposed planning and guidance process have not yet been implemented, and it has not yet been shown how the products of the planning process should link with decisionmaking. Chapters III, IV, and V describe the changes needed in DoD practices.

Chapter VI suggests a prototype management system incorporating these changes. In the area of planning, three procedural mechanisms are described that would introduce the following needed characteristics of planning:

- **Planning Initiation:** The Secretary would be able to focus planning on strategic choices and planning options that reflect the uncertain security environment and are of direct concern to him and his senior advisors;
- **Analysis:** Planning analyses would mesh OSD and Service long-range resource planning with the joint military force planning in order to effectively consider resource constraints in force planning. This would be accomplished through investment area assessments, which would identify the resources required to meet a given set of goals; and
- **Integration:** These analyses would be integrated across missions and functions, and over time, to provide the Secretary with coherent assessments of force and resource options that are related to strategy.

Chapter VI then provides suggested prototypes for the planning elements to be included in the Defense Planning Guidance. Examples are provided to suggest formats for long-range goals for forces, technology development, and infrastructure. There is also an example of a resource roadmap that summarizes the programs and budgets required to achieve such goals. The chapter concludes with descriptions of procedures for linking these goals and

roadmaps to the Defense Planning and Resources Board and the Defense Acquisition Board decisionmaking processes.

Finally, Chapter VII concludes with an agenda for initiating development of this proposed planning, guidance, and decisionmaking system. Among these steps are the following:

- Development of the needed analytical tools to mesh long-range resource analysis with JSPS security analysis.
- Initiation of a test cycle of the proposed integrated, long-range planning process, which would include development of the needed processes for investment area analyses;
- Incorporation of this planning in the next Defense Planning Guidance; and
- Changes in formal DPRB and DAB procedures to ensure they incorporate this guidance in near-term decisionmaking.

We believe these steps are sufficient to complete the reform agenda outlined in the Packard Commission and defined more fully in Secretary Cheney's Defense Management Report to the President.

II. CRITERIA FOR THE DEFENSE MANAGEMENT SYSTEM

The Secretary's task of creating effective, integrated defense programs requires an overarching vision of needed defense capabilities, consistent with acceptable levels of risk and available resources, and the coordination of the activities of diverse and powerful organizations charged with implementing this vision. The purpose of the defense management system is to support the Secretary of Defense in these tasks. The characteristics needed in such a management system have been described in the many Commissions and reviews that have examined the defense management system since the end of World War II. As indicated in Chapter I, these reviews have consistently concluded that defining an integrated defense program requires a management system possessing a strong top-level strategy formulation and long-range planning function, as well as procedures for incorporating the results of this planning in near-term decisionmaking processes.

While this overall vision is quite clear and consistent, implementing it requires the resolution of a number of specific issues. The purpose of this chapter is to frame the major issues that need to be addressed in implementing such a management system, and then to examine how the desired management characteristics could be established. In particular, the management system must address such questions as: what should be the time frames for planning, how should resource constraints be incorporated, who should be involved, and what should be the format of the resulting guidance. These questions are discussed in this chapter, and the related principles established by the management studies reviewed in Chapter I are then summarized. The final section uses these principles to set benchmarks for our review of current management practices reported in subsequent chapters.

A. ISSUES IN THE DESIGN OF THE DEFENSE MANAGEMENT SYSTEM

Four basic management issues that must be addressed in designing any management system are summarized by the following questions:

- Who participates in planning and decisionmaking?
- How are issues and choices framed?
- What procedural linkages are established between planning, decisionmaking, and execution?
- How does the Secretary discipline participants to adhere to the established procedures?

This section addresses each of these questions in turn and suggests answers that are consistent with the management system envisioned by the management reviews summarized in Chapter I.

1. Who Participates in Planning and Decisionmaking: Organizational Participation and Perspective

Successful planning must be viewed as an integral part of the overall management system, rather than simply the preparation of a planning document. To be successful, the process by which the plan is developed must involve leaders representing the relevant viewpoints throughout the organization. Strategic management is a term that has come into increasing use during the past decade to describe such a process.

A strategically managed organization is one in which strategic planning is performed proactively throughout the organization as part of the expected responsibilities of all corporate managers. The key attributes of a strategically managed organization are as follows:

Planning is streamlined, the primary focus is on operating plans, and the resolution of externally driven issues is left to small task forces of line managers . . . *What distinguishes these companies is the care and thoroughness with which management links strategic planning to operational decisionmaking and then executes its plans.*¹[Emphasis added]

The strategic management process systematically addresses questions about the choices open to an organization and involves all segments of its management. Such a review is not a routinized mechanical process, but is driven by important questions. Through an open dialogue the leadership communicates its goals and plans throughout the organization and builds a consensus on (or at least an understanding of) policies within the management cadre.

Experience in the business world provides three basic tenants of strategic planning:

¹ Frederick W. Gluck, "Strategic Management: An Overview," pp. 1.28-1.29.

- The strong support and involvement of the top management is essential;
- The primary responsibility for planning and analysis must belong to the line managers. Their participation is of critical importance in achieving an effective decision, in keeping the plan current, and in developing among the managers a sense of ownership in the plans; and
- Dedicated staffs for planning should be kept small and should facilitate the planning process, not take control of the process or ownership of the product.

With respect to the Secretary's role in strategic planning, there is general agreement in the planning community that the Chief Executive Officer (CEO) of any organizations is the ultimate strategic planner.² If the Secretary of Defense is committed, his commitment will ensure the active support and commitment of the senior managers throughout DoD, including the Services and joint military organizations.

Although planning is often associated with centralized control of an organization, the strategic planning process would include all segments of DoD in setting the direction for the department. Instead of centralizing control, this participatory process would afford representation of all needed perspectives. The needed strategic perspective for defining integrated force goals is:

- Global--programs must balance security concerns and risks across regions;
- Integrated--programs must be balanced across missions and functions, and over time;
- Long-Term--decisions on programs have security and resource consequences extending well into the future.

By virtue of organizational positions and responsibilities, only the Secretary and the Chairman of the Joint Chief of Staff (CJCS) possess the needed perspective for defining effective, integrated forces to fulfill global requirements; however, they lack the staffs and the detailed operational knowledge to plan without the support of the Services and Commanders-in-Chief (CINCs) of the Unified and Specified Commands. The Services take a long-term, global view of the world but tend to see issues from the perspective of their respective roles and missions. Hence, their proposed programs and budgets do not yield an integrated force. The CINCs tend to take a more integrated view of military capabilities, but their perspective tends to be regional, and their participation in the DoD-wide processes tends to focus on near-term issues. Hence, the participation of all of these

² Ibid., p. 1-28.

leaders--Service, Joint Military, and the Secretary--in the planning process provides the combination of knowledge and perspective needed to define integrated forces.

Strengthened planning that systematically involved these officials in defining and evaluating alternatives would create a management process in support of the integrated, global, long-term perspective. Planning that is structured to correspond to the nation's major military missions would provide a framework that military commanders could comfortably deal with, and a means for relating the functional activities of the department (e.g. manpower or research and development) to their ultimate strategic purpose. Integrating this planning across missions would provide the needed global view of security concerns, programs, and resources. Creating such a planning process would develop an institutionalized culture that would serve as a strong proponent for this perspective.

In addition to improving the internal management of the defense department, a strengthened long-range perspective on program issues would enhance the Secretary's ability to support the President in establishing defense policy and to work with Congress in establishing a consensus on defense. The examination of alternative futures and appropriate defense programs to deal with these alternatives can assist the Secretary in developing a broader common ground for national-level defense and budget policy, by helping to shift the focus of political debates away from line-item detail to more fundamental long-term issues. This will help to give more weight to strategy over competing political, economic, and organizational concerns.³

As with all government policy, military policy is developed in a political environment, reflecting the interests of the participants in the process.⁴ The policy debate will be carried on at several levels, involving a range of strategic, political, economic, and organizational factors. In today's changing global environment there is a tendency for the governmental decisionmaking process, with its numerous checks and balances, to bog down. When political leaders cannot resolve the larger questions, they will focus on more

³ For instance, see Andrew Goodpaster, *For the Common Defense* (Lexington, MA: Lexington Books, 1977), pg. 11. The issues he saw in the 1970s are still relevant today: "If security policy is to succeed, every major institution of our society...has the obligation...to form a workable and informed view as to its contribution to programs and goals." Further he noted that "[w]ithout the help of orienting principles and purposes to add coherence and perspective, the possibilities of confusion, contradiction, weather-vaning, self-impairment, and failure are likely to become actualities."

⁴ See Samuel P. Huntington, *The Common Defense: Strategic Programs in National Politics* (New York: Columbia University Press, 1961), pp. 2-3. He states, "Military policy...is the relation of force to national purposes. But it is always national purposes in the plural, national purposes which are continually conflicting, often being compromised, and seldom being realized. Military policy is not the result of deductions from a clear statement of national objective. It is the product of the competition of purposes....It is the result of politics, not logic, more an area than a unity."

limited near-term decisions, in effect adopting a strategy of "muddling through."⁵ The challenge in responding to rapidly changing political events is to develop the needed political consensus for appropriate action. The Secretary can attempt to provide leadership in forging a consensus through the development of a coherent long-range vision that reflects current uncertainties and likely available resources.

2. How are Issues and Choices Framed?

A first principle for the defense management system is that it must address the right questions. Moreover, to ensure that planning and decisionmaking are coherent and realistic, the system must mesh effectively the components of strategy. Conceptually, the components of a strategy can be defined by the three general questions:

- What is the objective and when is it to be achieved?
- How is it to be achieved?
- With what resources is it to be achieved?⁶

Table II-1 shows the relation of these questions to the four basic components of national security strategy: national security objectives, operational strategy, forces, and time-phased resources. Effective, integrated forces are defined as the forces that bring these four components of national security strategy into balance by making the best use of available resources to meet national objectives.

Applying this conceptual framework requires operational definitions for each of the components of strategy, as shown in the third column of Table II-1. Broad national security objectives are defined by the President, and the national military strategy is provided by the Chairman of the Joint Chiefs of Staff in consultation with the CINCs and the other members of the Joint Chiefs of Staff. These broad statements are translated to operational detail through the definition of planning scenarios specifying threats and operational objectives relevant for the time horizon of the planning and through near-term operational planning by the CINCs.

⁵ A discussion of such organizational decisionmaking strategies can be found in David Braybrooke and Charles E. Lindblom, *A Strategy of Decision: Policy Evaluation as a Social Process* (London: Collier-Macmillan, 1963).

⁶ See Goodpaster, op. cit., p. 15. In addressing the issue of balancing these components of strategy, Goodpaster states that the "security interests and objectives we set for ourselves must be dimensioned to be meaningful and serve our purposes. That is, they must strike a balance between what we would like to have, and what we will be willing to support and able to achieve."

Table II-1. Questions Defining the Components of Strategy

Strategic Questions	Components of Strategy	Operational Strategic Choices
<ul style="list-style-type: none"> What do you want to do, and when? 	National security goals for uncertain alternative futures	Mission Planning Scenarios and Operational Objectives.
<ul style="list-style-type: none"> How are you going to do it? 	Military strategy	Operational Force Employment and Deployment Strategy.
<ul style="list-style-type: none"> With what are you going to do it? 	Forces	Force Goals: Structure Readiness Sustainment Modernization.
	Resources	Time-phased budget; manpower, technology, and industry.

Postulated scenarios and threats provide concrete cases that permit military assessments of military capabilities and operational strategy. Operational strategy is similarly expressed in terms of specific operational planning that develops strategies for deploying and employing forces commensurate with the scenarios and forces under study. Forces must be defined in sufficient detail to assess their capabilities; hence their structure, readiness, sustainment potential, and modernization must all be defined. Resources are defined in terms of time-phased budgets and other resources over the planning period. Forces, operational strategy, operational plans and scenarios are treated as "snapshots" at a certain point in time, whereas defense budgets constitute a flow of resources that relate to forces over many years. That is why goals, operational strategies, and forces must be balanced against a time-phased profile of resources.⁷

⁷ The *Defense Management Report (DMR)* to the President referred to such a time-phased budget profile as a roadmap. We adopt the term "resource roadmap," to distinguish it from a fully defined set of programs.

a. Meshing Resource and Security Analyses

To develop a strategy that is complete and coherent, each of these components of strategy must be addressed, and the analysis of them must be meshed so that they are mutually consistent. In particular, it is essential that planning assessments relating to objectives, operational strategy, and forces be meshed with resource assessments to ensure that resource constraints are adequately reflected in national security decisionmaking.

b. Planning and Decisionmaking Time Frames

It is possible to account for the "when" in national objectives by defining planning scenarios, threats, and operational objectives for several planning time horizons--for example 2, 5, 10, or 15 years into the future. For planning purposes, tentative plans for operational strategies and forces would be postulated for these time frames. For example, in assessing the balance of goals, strategy, and forces for the year 2000, it would be appropriate to use the forces, operational strategies, scenarios, threats, and operational objectives postulated for the year 2000. Goals for forces over time would be developed by conducting a series of these snapshot analyses.

The planning process should be used to explore initiatives relating to the mix of purchases among alternative programs or initiatives relating to potential new technologies. In this application, the process would develop alternative future forces, armed with alternative combinations of weapons (along with associated tactics and doctrine) that could be developed and fielded within the time-frame under consideration.

In the case of major acquisition programs, such planning must be long-range because the program development, production, and deployment times are so long that many years are required before current program decisions shape a significant fraction of weapon inventories. Figure II-1 provides a hypothetical example to illustrate this. For example, consider a weapon with an average life of 25 years.⁸ Figure II-1 shows that with a constant roll-over rate (replacing four percent of the inventory each year), total purchases after 1990 will have replaced only 20 percent of the total weapon inventory in 1995, 40

⁸ Note that the roll-over rate is primarily determined by economics rather than technology. New technology cycles are far shorter than 25 years, and for some weapons (or components) faster rates can be sustained, but the aggregate limits on available funds for procurement prohibit supporting a faster rate of replacement for the force as a whole.

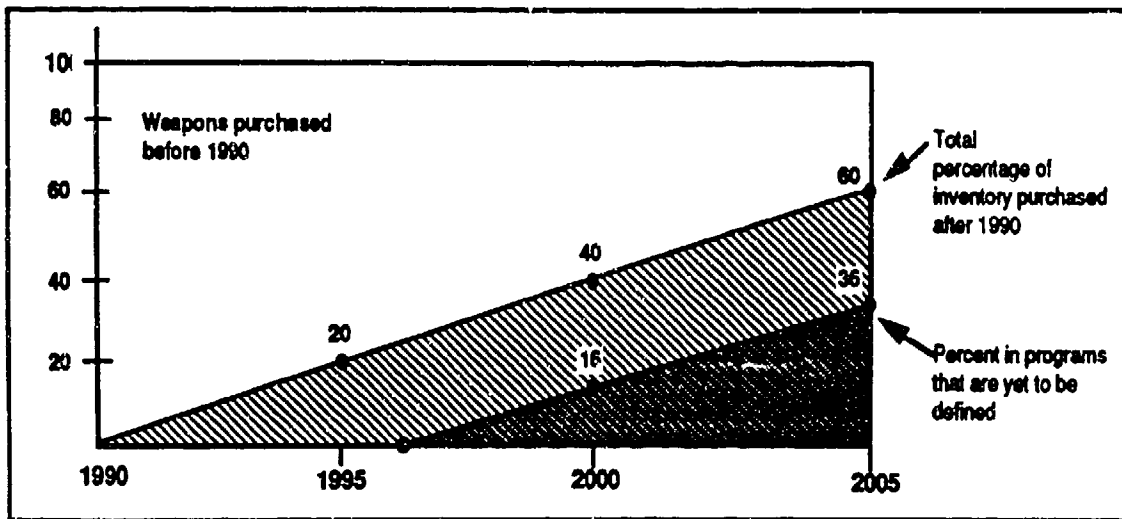


Figure II-1. Fractions of the Weapons Inventory That Can Be Influenced by Current Decisions: Notional Example

percent in the year 2000, and 60 percent in 2005.⁹ Hence, today's programming and budgeting decisions on major weapon programs will have their primary influence on forces 10 or more years into the future.

The figure also shows that because of the lengthy development times, today's decisions about new programs currently under development will take even longer to influence sizable fractions of the force. In this example, assuming a six-year development cycle, new generation weapons presently in the early stages of definition would not enter the force until at least 1996 and would therefore constitute 16 percent or less of the weapon inventory by 2000 and 36 percent by 2005.¹⁰ Today's decisions relating to the definition of program will primarily influence forces 15 or more years into the future.

This figure illustrates three important points about planning for acquisition. Most importantly, such planning is feasible well into the future, because we already know the building blocks of future forces 10 or 15 years into the future. Conversely, long-range

⁹ This assumes a steady-state roll-over, with an inventory roll-over period of 25 years and a weapon development period of 6 years.

¹⁰ One important implication of these calculations is that the pace of modernization of forces is controlled both by development times and the turnover rate for the equipment inventory. For example, in using our illustration in Figure II-1, reducing the development time for a weapon just passing through milestone 0 from 6 years to 5 years would increase the percentage of inventory replaced by the year 2000 from 16 percent to 20 percent. This same result can be obtained by maintaining the 6-year development period and increasing the roll-over rate of inventory from 25 years to 20 years.

planning is needed for acquisition decisionmaking because acquisition programs begin to shape forces meaningfully only over extended time periods. Finally, technology planning for defining major weapon programs must extend at least 15 or more years into the future since new technologies will significantly alter forces some time after the technology is introduced, especially given long program inventory lives.

Given these relationships, three broad time frames can be defined for acquisition planning. These relate to the relative degree of flexibility in making decisions relating to acquisition.

- Short-run: (1 to 5 years): The inventory of military equipment is largely inherited from earlier periods. In this time frame, integration of programs mainly entails balancing operations and support programs to integrate with the inherited inventory of equipment.¹¹
- Mid-run: (5 to 15 years): The composition and size of equipment inventories becomes variable, but the acquisition programs, which form the building blocks comprising the forces, are largely defined. In this time frame, integration entails balancing the mix of equipment purchased through ongoing acquisition programs, as well as balancing operations and support programs to integrate with existing and planned inventories of equipment over the planning period.
- Long-run: (beyond 15 years): The composition, size, and program building blocks of forces become increasingly variable. In this time frame, integration entails defining the technological capabilities for new program building blocks, balancing the mix of equipment purchased, as well as balancing operations and support programs to integrate with existing and planned inventories.

In sum, the range of flexibility and choice expands as the time horizon for planning expands. Short-run planning mainly relates to questions of how best to operate, sustain, and support existing forces; mid-term planning can also address how the next 15 years of funding will be used to shape integrated forces; and long-range planning can address how future weapon systems should be designed.

Each of these time frames is appropriate for planning and should be reflected in the goals for decisionmaking. Hence, force goals should be defined to include a readiness and sustainability component as well as modernization goals, so that near-term considerations are captured. Similarly, while the force goals are set for a 15-year time horizon, separate

¹¹ Comments on the budgets by the CINCs tend to focus on near-term operations, sustainment, and support issues. They have an inventory of equipment with which they must meet today's crisis and fight tomorrow's war. Their mission requires a principal focus on the near term.

technology goals are specified to reflect the need to prepare for deploying new technologies beyond the force planning period, because current decisions will not be reflected in the weapons delivered to the forces within that time frame.

c. Planning for Uncertainty

A common concern with planning is that changing world events and the volatile domestic budgetary process may make it virtually impossible to plan for the future. However, if a planning system is designed to address uncertainty, planning is both possible and beneficial. In uncertain times, planning is most valuable for identifying possible events and reasonable courses of action.

Flexibility in the face of uncertainty and speed of adaptation should be hallmarks of a well-constructed planning process. Four characteristics, or rules of planning, must therefore be embodied in the system. These are illustrated in Figure II-2, which presents a notional set of alternative futures the nation should prepare to address. For each alternative, an ideal force could be optimized to the circumstance. However, given uncertainty, it is necessary to hedge against risk. The figure illustrates the four rules of planning that yield a planning process that would contribute to flexibility and adaptability:

- **Consider a range of alternative futures.** Planners and the intelligence community should define the alternative futures for which forces should be prepared. They also should consider possible U.S. initiatives that would shape the future.
- **Build robust forces.** Near-term decisions on forces must be made despite the uncertainty about the future. The appropriate hedge is to design robust forces appropriate for the range of possibilities. Robustness and interoperability of forces must be guiding criteria for force development.
- **Consider alternative responses.** By planning today how to respond when future intelligence or key events reveal shifts in the relevant range of alternative futures, decisionmakers will be better prepared to respond to events as they occur.
- **Develop options.** In the face of uncertainty, planning should lay the groundwork needed to maintain the flexibility to shift toward alternative force postures. The maintenance of reserve forces and mobilization capabilities is representative of such preparations.

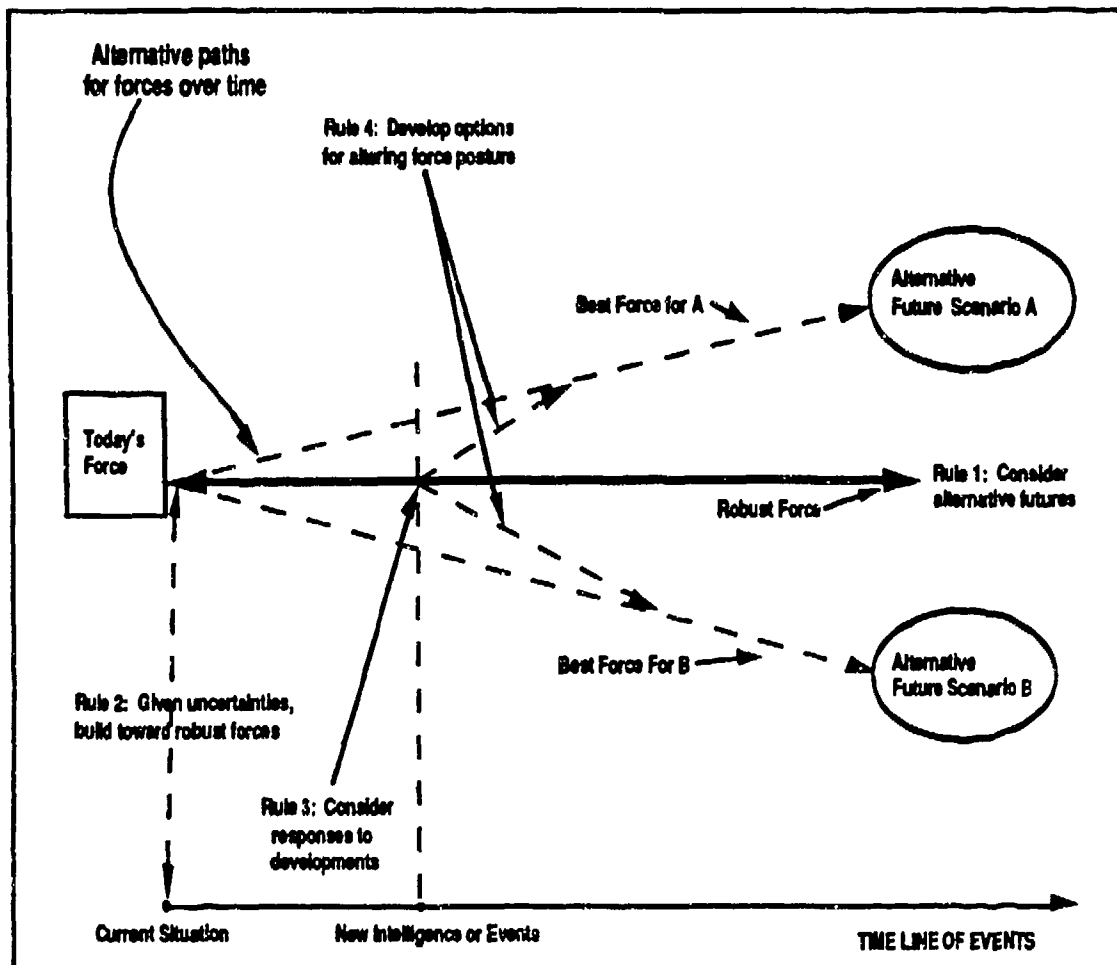


Figure II-2. Planning for Uncertainty

Although world events are highly uncertain, forces cannot be changed quickly to adapt. For this reason, robustness in the design of forces is the single most important factor in planning for uncertainty. If forces are designed to be robust, they do not have to be reshaped in the face of daily events or minor shifts in the strategic environment. Once a strategic direction and long-range goals for forces are established (or postulated for planning), it is possible to identify the needed defense programs well into the future. The relatively slow evolution of forces, noted earlier, creates a predictable long-range connection between planned forces and the defense budgets needed to operate, maintain, and modernize them 5, 15, or even 25 years into the future.¹²

¹² It has been estimated that at existing procurement rates, the turnover rate for the U.S. inventory of military hardware is about 25 to 30 years. At these rates, it is estimated that 60 percent of the equipment that will be in inventory at the end of the century will have been purchased before 1990.

Service planners who manage the inventories, maintenance, and replacement of the physical assets of the forces are able to predict reasonably well the long-range implications of near-term decisions. Looking at this relationship from the reverse perspective, it also highlights the fact that the long-range budget implications of today's program decisions should be factored into the decisionmaking calculus. In summary, assessing the long-range budget implications of current program decisions is both feasible and necessary to ensure that current decisions lead to appropriately integrated (and financially supportable) future forces.

3. What Procedural Linkages Are Established Between Planning, Decisionmaking, and Execution?

There is considerable debate on how planning should be used to shape decisionmaking, centering on two related issues:

- Should the Secretary attempt to shape programs through the *Defense Planning Guidance*, or reserve his main involvement to impose his vision during the review of the Services' specific program and budget proposals?
- How specific should the *Defense Planning Guidance* be?

With respect to the first question, there has been a clear consensus among the reviews of defense management discussed in Chapter I that the *Defense Planning Guidance* should resolve the big resource allocation decisions that shape the individual Service programs. Thus, the *Defense Planning Guidance* should be a central element of the defense management system. The major elements of guidance required to carry out this function are summarized in Table II-2. These include broad statements of national objectives, defense policy, and military strategy. In addition, the more concrete elements of guidance include scenarios, goals, milestones, and roadmaps. Scenarios comprise illustrative cases for potential force employment. Goals and milestones relating to acquisition programs would be set for three areas: forces, technology development, and the technology and industrial infrastructure. The resource roadmap for achieving the long-range goals would identify programs in investment areas needed to achieve the goals, along with time-phased projections of the needed funding. The overall funding identified in the roadmap can be compared with projections of defense budgets to ensure the affordability of goals.

Table II-2. Elements of the *Defense Planning Guidance*

- National objectives, defense policy, and national military strategy
- Planning scenarios and associated operational objectives
- Long-range goals (15+ years) and near-term milestones
 - forces
 - technology
 - infrastructure
- A resource roadmap for meeting goals.

Inclusion of scenarios, goals, and the financial roadmap would make the *Defense Planning Guidance* the backbone of the defense management system. It could then inform subordinates of the desired future course for the organization, and provide a "shared vision" of the organizational goals, values, and world view. It also would demonstrate how this vision translates into near-term actions, providing the needed linkage between near-term program and resource decisions and long-range strategic goals.

4. How Does the Secretary Discipline Participants To Adhere to the Established Procedures?

Many experienced Pentagon practitioners maintain that the main reason why decisionmaking has not been more effectively linked with strategic planning is a lack of discipline that has allowed participants to circumvent and undermine the orderly procedures built into the defense management system. These observers believe that we don't need a major overhaul of the programming and budgeting process; rather, practices within the system must be made sufficiently clear--and formalized if necessary--to allow the Secretary to discipline participants to play within the rules and to link decisions with planning.

To establish an unambiguous linkage between planning, programming and budgeting, it is necessary to stipulate how the elements of the *Defense Planning Guidance* should be used in programming and budgeting. As with programming and budgeting, the processes for defining the individual acquisition programs that form the building blocks of the military forces should also be linked with the elements of the Guidance to ensure they are consistent with integrated goals. These linkages must be established with the Defense Acquisition Board (DAB) and the JCS Chairman's Joint Requirements Oversight Council (JROC), which are the principal acquisition program oversight mechanisms for ensuring that individual acquisition programs fit within an integrated and effective force.

B. NEEDED MANAGEMENT CHARACTERISTICS

The implications of the discussion in the preceding section for the DoD management system may be stated succinctly. The Secretary of Defense must establish and be an active participant in a management process that includes the individuals responsible for executing plans. This process must ask the right questions about possible futures, choices, and initiatives and effectively mesh net assessments of security issues with financial assessments of affordability; integrate the alternatives, options, and choices to provide a long-range, integrated perspective; and shape important decisions through the resulting guidance as well as through the participation of the Department's leaders in the planning process.

1. Planning and Guidance

More specific benchmark criteria for planning and guidance fall into four areas. First, the right questions must be asked during the planning process. Careful definition and analysis of alternative futures and long-range strategic choices is essential. Hence, planning should be:

- Long range--Planning must examine force goals and program trade-offs over a 15- to 20-year time horizon to fully reflect the long-range implications of near-term decisions;
- Robust--Planning should increase the organization's ability to respond to a range of contingencies and to changing world events; to do this it must consider a range of alternatives; and
- Keyed to important strategic choices--Planning should be issue oriented; it should be kept current with updates as needed to adapt to a changing environment.

Second, planning needs to balance security objectives and resources. To effectively mesh net assessments of security concerns with financial constraints, planning must be:

- Resource constrained--Planning should ensure that programs are fiscally responsible; it must assess the affordability of long-term goals under reasonable alternative budget constraints; and
- Quantitative and analytical--Planning should combine leadership vision with quantitative assessments of how this vision can be translated into specific actions. Forces must be specified adequately to assess their capabilities; programs, adequately to assess affordability.

Third, to help to define integrated defense programs in support of long-range objectives, planning must itself be well integrated. In sum, the process must be

- **Integrated**--It must examine trade-offs across mission areas and identify gaps or overlaps in the plans of subordinate organizations.

Fourth, the DoD leadership must be involved in planning to shape near-term decisions, and the planning must yield guidance in a form that can be related to near-term decisions. Hence the process must be

- **Linked with near-term decisions through goals**--Planning must drive decisions. It must yield products that highlight important strategic choices and relate near-term decisions to long-range consequences by establishing long-range goals and a financial roadmap; and
- **Decision oriented**--Planning must involve the decisionmakers responsible for executing the plans, with a small dedicated staff. Service, joint military, and civilian managers should be included in the planning process to resolve conflicts and set viable goals.

2. Programming and Budgeting

The programming and budgeting process makes the specific decisions about near-term spending, whereas planning establishes the broad correlation between the elements of strategy over a long-range time horizon. The Secretary can fulfill his responsibility for ensuring that near-term decisions constitute an integrated program by developing procedures to ensure that DoD-wide program and budget reviews incorporate the long-range goals and roadmap.

The programming and budgeting process should also serve as a mechanism for reviewing planning and keeping it current. More specifically, the existing goals and roadmap should be modified to reflect any changes in programs due to program and budget factors. For example, if a program were delayed or its price increased relative to plans, decisions to accommodate this in the program and budget reviews would be incorporated in plans.

In addition to these budgeting decisions, the process should be disciplined through progress reviews. Reviews make it possible to discipline decisionmaking to ensure programs are being executed according to goals, plans, and program decisions. They also provide perspective on the cumulative effects of program decisions and a mechanism for learning from experience. For this reason, benchmark versions of the goals should be maintained to provide a long-range perspective on current program decisionmaking. For example, reviewing 1995 forces and programs relative to force goals set in 1990 would be useful.

Hence, the programming and budgeting process should be:

- Goal oriented--POMs and the DPRB program and budget reviews must link with goals and the financial roadmap to establish the relationship between near-term decisions and long-range strategic choices;
- Interactive with Planning--Program and budget reviews should feed back data on current program decisions that allow plans to be updated; and
- Disciplined through execution reviews--Progress reviews should evaluate programs against benchmark goals.

3. Acquisition Program Definition

The acquisition system includes all of the processes by which weapon systems are conceived, defined, evaluated, designed, prototyped, tested, produced, incorporated into the force structure, and upgraded. It is within this process that individual programs, which comprise the building blocks of the military forces, must be defined to fit within overall integrated force goals. In considering how acquisition could be linked with force goals, it is important to recognize that acquisition is a competitive advocacy process, rather than a systematic, deductive process as described in formal documents.

The Secretary's responsibility for ensuring that programs are defined to meet long-range, integrated force development objectives entails two management tasks. First, he must ensure that the acquisition system fosters a competition of ideas so that an appropriate range of program options is developed. Unless some care is taken to ensure that an appropriate range of options is explored, the programs defined by the system are simply an aggregation of the proposals of the sponsoring organizations, rather than a coherent, integrated set of programs. Fostering competition among sources of alternative program ideas would be a highly effective way to ensure that needed alternatives are explored.

The system must promote a competition of ideas in meeting individual force goals to ensure that an appropriate range of alternative weapon programs is examined. Hence, the acquisition process should be:

- Goal oriented in defining program purpose--Technology goals and budget projections established in the integrated planning process should guide early technology development efforts; and
- A competition of ideas--The process should keep a range of options and program proponents active in important development areas. OSD should adopt a proactive policy of maintaining a competition of ideas, by maintaining a robust organizational base for generating program ideas.

The second management task is to discipline program decisionmaking to ensure that individual program decisions reflect integrated goals. These planning goals, roadmaps, and planning scenarios provide the needed context to define programs that are consistent with overall long-range force development objectives. If a program is consistent with the goals, roadmap, and scenarios, it is linked with strategy.

The needed discipline in decisionmaking could be established through the milestone review process, which should ensure that programs are supported by the proper analyses and that program proposals are consistent with the goals and targets established in the roadmaps. In sum, acquisition decisionmaking should be:

- Linked with integrated planning through scenarios and investment area roadmaps--Program-level analyses should examine broad tradeoffs and affordability in accordance with integrated force goals. Planners should keep abreast of program developments; and
- Integrated through milestone reviews--Milestone reviews should be used to check on the consistency of programs with strategic goals as reflected in the DPG's resource roadmap. To discipline the competitive advocacy process, OSD should confirm the validity of program data and analyses.

A system with these characteristics is consistent with the management principles for acquisition management and decisionmaking discussed in the report of the Packard Commission.¹³ Such a system would streamline the acquisition process by linking strategy and acquisition more explicitly and directly. The basic decisions about programs' consistency with strategy and their affordability are to be addressed in an integrated framework that provides roadmaps linking individual programs with broad force goals. Once roadmaps are established in investment areas, analyses and program-level decisions at key points can be guided by the roadmap. The system would permit the program review process to focus on ensuring that programs are executed within the planning parameters at the program milestone reviews.

¹³ In the Packard Commission model (see the Commission's report, *A Quest For Excellence*) the program manager would report to the Under Secretary for Acquisition through a streamlined chain of command. Hence, the Under Secretary could provide the focal point for ensuring that acquisition programs form an integrated, coherent program and are thus consistent with the overall strategy. The framework presented here is consistent with this model and shows how planning helps to define the integrated program and how analyses and milestone reviews should be used to ensure that programs are consistent with the integrated goals established in the plans.

C. THE MANAGEMENT CHARACTERISTICS AS BENCHMARKS FOR REVIEWING THE CURRENT MANAGEMENT SYSTEM

The following three chapters use the management principles set out in this chapter as benchmarks for assessing the evolution and current operation of the defense management system. Chapter III examines the processes and organizations for planning and guidance. It reviews planning and guidance issues from the perspective of the four major organizational actors in the process: national-level organizations, the Secretary of Defense, the Joint Military Organizations, and the Services. After reviewing developments in each of these areas, Chapter III concludes with an overall assessment of planning and guidance in terms of the principles laid out in this chapter. In a similar fashion, Chapter IV examines the programming and budgeting processes, and Chapter V examines the acquisition program decisionmaking processes. The assessments provided in these chapters provide the basis for the prototype system discussed in Chapter VI and our agenda in Chapter VII.

III. STRATEGY FORMULATION, PLANNING, AND GUIDANCE

The conceptual framework described in the preceding chapter outlined a DoD planning process that would involve the department's leadership in exploring alternative futures and in providing the Secretary with a range of options for balancing the four components of national strategy: national security objectives, operational strategy, forces, and resources. This process would support the Secretary in establishing the needed roadmap for linking acquisition programs with strategy. The Secretary's *Defense Planning Guidance* would incorporate the results of such planning in order to inform managers of the goals, milestones, and roadmaps needed to shape their near-term decisions.

Independent reviews of the defense management system summarized in Chapter I demonstrate long-standing concerns that, prior to the Packard Commission and Goldwater-Nichols Act, DoD planning processes did not provide the Secretary with the needed framework for integrating the programs managed by the Services and defense agencies. Such concerns were expressed by Presidents Truman and Eisenhower and by subsequent Presidential commissions and Secretaries of Defense in the 1960s, 1970s, and 1980s. One specific criticism was that planning at the OSD-joint military level did not mesh the four components of strategy, primarily because the processes for force planning were not meshed with resource considerations. A second criticism was that these processes provided an aggregation of defense component plans rather than independent assessments reflecting an integrated perspective.

We have reviewed current operation of the processes involved in strategy formulation, planning, and guidance in order to examine these issues in view of the reform efforts initiated in 1986 by the Packard Commission and the Goldwater-Nichols Act. This chapter examines the four major organizational participants: the national political leadership, Secretary of Defense, Chairman of the JCS (CJCS) and joint military organizations, and Services. The main findings of the review are presented in Table III-1, which summarizes the long-standing concerns in each area, reform efforts since 1986, and our assessment of current practices.

Table III-1. Findings on Strategy Formulation, Planning, and Guidance

ORGANIZATIONS	ROLE IN CONCEPTUAL FRAMEWORK	HISTORICAL CONCERNS	REFORMS SINCE 1996	CURRENT ASSESSMENT
National-Level (President, NSC, Congress)	<ul style="list-style-type: none"> Congress and President seek broad consensus on balance of goals, strategy, forces, resources Presidential guidance on long-range goals consistent with resources 	<ul style="list-style-type: none"> Strategic goals are too general and not clearly related to resources Micromanagement 	<ul style="list-style-type: none"> White House strategy statement required by law NSDD-219 revised planning process; SecDef to provide President with strategy options linked with resources 	<ul style="list-style-type: none"> Overall, national-level strategy has provided a general guide for acquisition definition The President still needs strategy options that are linked with resources
DoD-Wide (SecDef, OSD)	<ul style="list-style-type: none"> Planning process defines and analyzes options for strategic choices <ul style="list-style-type: none"> Force planning Resource analyses Planning products <ul style="list-style-type: none"> Support SecDef participation in national-level processes Provide basis for SecDef guidance Guidance provides <ul style="list-style-type: none"> Long-range goals Resource roadmap Planning scenarios 	<ul style="list-style-type: none"> Guidance prepared by committee consensus, rather than by decisionmakers No roadmap showing how programs link with strategy and resource. Guidance issued too late to be useful for POM development 	<ul style="list-style-type: none"> DMR established issue cycle process for preparing DPG DPG to include <ul style="list-style-type: none"> Multiple planning scenarios Resource roadmap for investment Priority planning objectives limited to 20% of budget 	<ul style="list-style-type: none"> A framework is still needed for developing a resource roadmap <ul style="list-style-type: none"> should provide agreed upon vision for future programs should mesh force planning with resource planning Elements of proposed DPG still need to be implemented <ul style="list-style-type: none"> long-range goals resource roadmap planning scenarios
Joint Military (CJCS, Joint Staffs, CINCs)	<ul style="list-style-type: none"> Leads strategy formulation Leads force planning <ul style="list-style-type: none"> Sets tentative goals Leads net assessment Force goals support defense-wide planning process <ul style="list-style-type: none"> Balance strategy and resources 	<ul style="list-style-type: none"> Force goals of JCS were <ul style="list-style-type: none"> Not meshed with resources Too general to guide decision-making Not integrated, but an aggregation of Service goals Reflected single scenario 	<ul style="list-style-type: none"> Chairman made responsible for developing strategy and setting integrated force goals by Goldwater-Nichols Force planning meshed with resource constraints by Goldwater-Nichols 	<ul style="list-style-type: none"> JSPS force goals still focus only on broad force structure, and on a single scenario JSPS force planning still needs to be linked with resource planning
Services and Defense Agencies	<ul style="list-style-type: none"> Participants in DoD-wide planning <ul style="list-style-type: none"> Force planning Resource planning Service plans are building blocks for integrated planning 	<ul style="list-style-type: none"> Services' planning and goals have been <ul style="list-style-type: none"> Based on own view of roles and missions Not integrated No framework for coordinating or integrating Service planning 		<ul style="list-style-type: none"> Services still need to be provided a framework for guiding plans and for their integration

Four main findings are detailed below:

- **National Political Leadership.** The President, National Security Council, and other cabinet-level organizations provide broad qualitative guidance on national security objectives and strategy without tying these closely with resource limitations or (usually) programmatic specifics. The Congress, through its authorization, appropriation, and oversight functions provides strategic guidance, although this often takes the form of "micromanagement." Historically, there has been concern that strategic guidance has been too general and too loosely related to resource constraints, yet too detailed in line-item involvement in specific programs. Recent reforms have not substantially altered these practices. Nevertheless, we find that the basic tenets of national strategy are well understood, and provide the needed guidance for the Secretary of Defense and the Chairman of the JCS to develop concrete plans, programs, and budgets.

- **The Office of the Secretary of Defense.** The Secretary of Defense and the Office of the Secretary of Defense play major roles in shaping strategy, providing planning assumptions for long-term funding, and producing the Secretary's *Defense Planning Guidance*. In recent years, both the preparation *process* and the contents of the *Guidance* have been strongly criticized as providing only a weak mechanism for guiding programs. Recent reforms have addressed many of these concerns. The process for developing the DPG was strengthened in the DMR through the creation of a planning issues cycle, and proposals were made to strengthen the DPG by including a range of planning scenarios, a long-range investment roadmap, and a set of priority planning objectives. However, several key improvements remain to be implemented, including a resource planning process for developing the proposed investment roadmap.

- **Joint Military Organizations.** The Chairman of the Joint Chiefs of Staff and the Commanders-in-Chief of the Unified and Specified Commands are the primary military officials responsible for developing and linking a specific executable military strategy to the President's national strategy. Their advice on the military capabilities needed, and on the force goals associated with those capabilities, is an essential link in the process. Historically, joint planning was criticized because it focused on defining a "planning force" that was based on a single planning scenario and did not consider resource constraints. Reforms stemming from the Goldwater-Nichols legislation have greatly strengthened the role of the CJCS in forging the needed linkage by defining integrated force goals that are consistent with projected available resources. However, the process is not yet providing the Secretary with a range of strategic options relating to forces or resources as envisioned by the Packard Commission and formally instituted by NSDD-219. In

addition, force structure goals established by the CJCS need to be augmented with more explicit goals for modernization, readiness, and sustainability over the planning period in order to provide a basis for resource planning analyses and program decisionmaking.

- **Military Services.** The Services create specific and detailed long-range acquisition plans to develop and procure forces. They have well-understood strategies, based on their view of national strategy and their individual roles and missions, which shape their decisionmaking. Long-range planning typically is done for their major warfare areas and in the case of the Army, a *Total Army Plan* is developed. This Service planning provides an important pathway linking strategy with acquisition program decisionmaking. However, these plans do not always reflect overall resource constraints, are not always integrated at the Service Headquarters level, and are not integrated among the Services. Therefore, they do not comprise a completed roadmap for integrating programs; rather they outline a core set of programs providing a starting point for DoD-wide force and resource planning.

Two additional steps are proposed in Chapter VI to clarify the linkages between strategy and near-term program, budget, and acquisition decisions. The first is to strengthen joint military-OSD planning so that it (a) examines strategic alternatives specified by the Secretary of Defense, (b) meshes joint military force planning with long-range resource planning, and (c) provides the Secretary with integrated, long-range goals for each option examined. The second step is to implement the DMR's recommendations for incorporating the products of this planning in the *Defense Planning Guidance*.

A. NATIONAL-LEVEL STRATEGY FORMULATION AND GUIDANCE

In an idealized system, the President and the Congress would establish the national security objectives, policies, and resource allocations that would shape the military strategy and required military capabilities. However, developing such grandly unified national guidance would require the President and Congress to achieve a broad, long-range consensus on these elements of strategy. In practice such consensus has rarely been sustained for long. Hence, the President must provide the leadership in developing and proposing long-range, strategic direction for defense policy. Over the years the broad national-level strategy enunciated by the President has been reasonably well understood, and has provided a general framework for defining defense programs.

Many of the current institutions that advise the President on defense issues were created following World War II for the express purposes of strengthening the integration of military power, and linking forces with overall national security objectives. Most

significantly, the National Security Council (NSC) was established as a cabinet-level committee, with a staff within the Executive Office of the President; the new cabinet level Department of Defense was created; and the Joint Chiefs of Staff was formed as a formal organization consisting of the individual Service Chiefs and a Chairman.¹ The National Security Advisor and the NSC staff have generally played a central role in coordinating and guiding policy.² However, each new Administration has established its own system of advice within the executive branch to reflect its preferred style of management.

National security reviews provide an important mechanism for establishing and disseminating security strategy, and have been undertaken by every Administration in the post-war era. Under President Truman, NSC 68 reviewed U.S. policy toward the Soviet Union. The Eisenhower Administration undertook a reexamination of national security policy, reflecting the crucial role of strategic deterrence in military strategy and force development. The Kennedy Administration conducted reviews prior to the President's inauguration, and in its early stages, that together provided a comprehensive approach to the cost and capability of U.S. defense policy. In 1969, the Nixon Administration undertook a national security review, National Security Study Memorandum 3 (NSSM 3). From 1970 to 1973, the Nixon Administration published annual foreign policy reports. The Carter Administration first expressed its approach to defense with Presidential Review Memorandum 10 (PRM 10), which attempted a comprehensive review of foreign and defense policy.³

The Reagan Administration did not initially conduct a national-level review of strategy. Secretary Weinberger believed that the Carter Administration was buying the

¹ For a description of the system of Presidential advice for national security, see "Presidential Leadership and The Executive Branch in National Security," in *American National Security: Policy and Process*, by Amos A. Jordon and William J. Taylor, Jr., pp. 83-108.

² For a description of the NSC and its staff, see The Tower Commission, *Organizing for National Security*, Part II of *Report of the President's Special Review Board*, Washington, DC.: President's Special Review Board, February 26, 1987.

The Tower Commission was concerned more with the possible improper operating role of the NSC staff than the formation of national security policy. An earlier study of more direct relevance to this paper was the "Odeen Study," *National Security Policy Integration*, a report of a study requested by the President under the auspices of the President's Reorganization Project, Washington, DC, September 1979.

For a history of the national security decisionmaking process see "The National Security Decision-Making Process: Putting the Pieces Together," in Jordon and Taylor, op. cit., pp. 201-217.

³ For a discussion of these strategy reviews, see John Lewis Gaddis, *The Strategies of Containment: A Critical Appraisal of Postwar American National Security Policy*, New York: (Oxford University Press, 1982). Gaddis covers reviews through the late 1970s.

right weapons and had only failed to fully fund them.⁴ Moreover, Weinberger's policy of "controlled decentralization"⁵ was intended to centralize policymaking while giving the Services freedom to implement the military strategy within their departments.⁶ Eventually, late in the Reagan Administration, a strategy review undertaken by the Commission on Integrated Long-Term Strategy, also known as the Iklé Commission, emphasized "discriminate deterrence" as a new, preferred strategy.⁷

Most recently, the Bush administration undertook a broad National Strategy Review in the spring of 1989, but the results were never published. One official described the review as reaffirming U.S. security objectives, but it has not been a significant factor in shaping defense programs. One reason for this is that it did not carefully consider resource issues and, hence, provided little insight into how programs should respond to the changing budget environment. Another reason is the turmoil of change in Eastern Europe and the Soviet Union, which has led to events overtaking the political and threat assumptions underlying the review.

Strategy reviews traditionally involve a wide range of government agencies. Within the White House, various coordinating and policy offices are involved in various aspects of strategy formulation.⁸ Major components of the Executive Branch involved in a strategy review include the Department of Defense, the Central Intelligence Agency, State Department, Commerce Department, Energy Department, Arms Control and Disarmament

⁴ According to Secretary Weinberger, "The principal shortcoming of the Defense budget we inherited is not so much that it omitted critical programs entirely in order to fully fund others, but rather that it failed to provide full funding for many programs it conceded were necessary but felt unable to afford." See statement by the Honorable Casper W. Weinberger, Secretary of Defense, Before the Senate Armed Services Committee, 97th Congress, 1st Session, March 4, 1981, p. 3.

⁵ See Deputy Secretary of Defense Frank C. Carlucci, "Management of the DoD Planning, Programming and Budgeting System," March 27, 1981, as reprinted in *Federal Contract Reports*, April 6, 1981, p. E-1.

⁶ The President, however, during his second year in office, issued a directive to develop a strategy. The statement reaffirmed the individual Service decisions already made for purchases of major weapons programs, but gave little guidance for long-range planning in a resource-constrained environment. See "Remarks of Judge William Clark," National Security Advisor to the President, at the Center for Strategic and International Studies, Georgetown University, Office of the Press Secretary, The White House, May 21, 1982.

⁷ *Discriminate Deterrence: Report of The Commission On Integrated Long-Term Strategy*, (Washington, D.C.: U.S. Government Printing Office, January 1988).

⁸ These include the staffs of the NSC and the intelligence community, the Office of Management and Budget, the Office of Science and Technology Policy, the National Space Council, the Office of the U.S. Trade Representative, the National Critical Materials Council, the Council of Economic Advisors, the Domestic Policy Council, and the Office of National Drug Control Policy. All of these offices can and do influence the President's military policy. See Office of the Federal Register, National Archives and Records Administration, *The United States Government Manual, 1989/90* (Washington, DC.: US Government Printing Office), pp. 85-100.

Agency, Federal Emergency Management Agency, National Science Foundation, and NASA. This wide involvement underscores the interdependencies involved in developing national strategy at the executive branch level. Strategy formulation must take account of the many aspects of defense policy, including gathering and evaluating threat information development of space systems setting emergency regulations for industry, transportation and manpower the issues of export control and support for science, technology, and education.

In addition to formal Presidential strategy reviews, there is always an active exploration of alternative futures and options within the defense community. To illustrate, Table III-2 lists major DoD-related policy and technology initiatives during the period 1981-1988, and shows the nature of some of the alternatives considered. Several initiatives came from the President and his National Security Council Staff, issued as National Security Decision Directives and in speeches and other Presidential initiatives. Additional initiatives were originated by Congress, the Secretary of Defense, or other senior officials. The Competitive Strategies initiative was introduced by Secretary Weinberger.⁹ These initiatives had two underlying themes: 1) a new emphasis on defense for strategic warfare with an increase in strategic war-fighting capability; and 2) development of high-technology weapons, especially for counter-attack and deep attack in conventional warfare.

The variety of sources of such initiatives is healthy and useful. Such initiatives could be used more effectively in decisionmaking however, if the Secretary had a framework to judge how a particular initiative fit within some overall view, to measure the extent to which each initiative contributed to long-term technology and force goals, and to determine how to prioritize proposals in terms of available resources.

Each administration has its own documentation scheme for disseminating strategy pronouncements. Some national security documents are very broad declaratory strategy statements (such as those dealing with deterrence) and are widely disseminated. A few are very sensitive and reach only the top civilian and military leadership. The absence of a core document containing the essential elements of U.S. national strategy does not mean that no strategy exists. In fact, many aspects of national security strategy can be deduced from a

⁹ See *Competitive Strategies*, Hearings Before The Procurement and Military Nuclear Systems Subcommittee of the Committee on Armed Services, House of Representatives, 100th Congress, 1st Session, March 2 and 3, 1989, pp. 15, 22.

Table III-2. Strategic Initiatives, 1981-1988

- Strategic and Nuclear War-Fighting Capability
 - Air Defense Initiative (ADI)
 - Discriminate Deterrence
 - Strategic Force Modernization
 - Strategic Defense Initiative (SDI)
- Increase in Conventional Offensive and Counter-attack Capability
 - AirLand Battle
 - Balanced Technology Initiative (BTI)
 - Conventional Defense Improvements Program (CDIP)
 - Competitive Strategies
 - Counter Air 90
 - Emerging Technologies (ET)
 - European Theater Defense (ETD)
 - Follow-on Forces Attack (FOFA)
 - Maritime Strategy
 - NATO's Extended Air Defenses
 - NATO Conventional Defense Initiative
 - Naval Revolutionary Technology Initiative (NRTI)
 - Non-Strategic Nuclear Warhead Modernization
 - SACEUR Conceptual Military Framework

Source: *General Dynamics Corporate Defense Initiatives Glossary*, Defense Initiatives Organization, General Dynamics, Arlington, VA, August 1988.

close examination of official speeches, or from past controversies and shifts that are now considered settled.¹⁰ However, the lack of a unified statement of strategy has led subordinate policymakers to deduce strategy from a collection of such specific decisions or pronouncements, speeches, or congressional testimony.¹¹

In sum, we find that the basic tenets of national strategy are developed and disseminated through Presidential reviews, formal strategy statements, and a number of other mechanisms. The broad outlines of national strategy are well understood and provide general guidance for developing the National Military Strategy and defining integrated forces. It is the responsibility of the Secretary of Defense, employing the defense management system, to provide leadership in defining and proposing alternative operational strategies, forces, and budgets consistent with the President's broad national-level strategy

¹⁰ See for example, Herman R. Staudt, *The DoD Decision Making Process*, (Cambridge, MA: Massachusetts Institute of Technology, May 1, 1968), p. 29. Staudt refers to an interview in which his respondent describes this use of informal strategy statements as the preferred approach of the Kennedy Administration, differentiating it from the Eisenhower Administration's use of the formal *Basic National Security Policy*. This approach appears to be the way the government has operated since.

¹¹ In the 1986 Defense Authorization Act, Congress required the President to provide a comprehensive national security strategy statement each year. President Reagan published these in 1987 and 1988. President Bush published his first one in 1990.

guidance. We believe the existing relationship between the President and Secretary of Defense is workable and therefore offer no recommendations in this area.

B. ATTEMPTS TO IMPROVE OSD PLANNING AND GUIDANCE

In formal descriptions of the defense management system, the *Defense Guidance* (as discussed below, the DG has been modified and renamed the *Defense Planning Guidance*) is the centerpiece of the planning phase of the Planning, Programming and Budgeting System. The *Defense Guidance* was "a strategic plan for the conduct of operations by U.S. military forces to defend the United States, its interests, and its allies and friends against possible threats world-wide in the period two to seven years in the future."¹² The *Defense Guidance* contained a base scenario for force planning, the CJCS military strategy, and mid- and long-range force goals. (Fiscal guidance was issued separately.) It also contained hundreds of goals and mid-term objectives (MTOs) ranging from the most general to the very detailed.

The process for creating the *Defense Guidance* was a consensus-building staff process, rather than an executive-level decisionmaking process. In practice, committees often glossed over disagreements and gave minimal regard to fiscal realities. The nature of the committee process for formulating mid-term objectives ensured that both the Services and the OSD staff could create objectives, but in total the objectives did not provide a realistic guide for subsequent POM development and review. Another weakness in the process was that the POMs were fairly far along and in some years even completed when the *Defense Guidance* was sent to the Services. In sum, under this system the Services and OSD were not required to address critical problems and difficult choices in the planning process.

In the second half of the 1980s, the OSD staff attempted to strengthen the *Defense Guidance* by linking its mid-term objectives more closely to the program elements in the programming phase of the PPBS. Attempts also were made to correlate the DG's objectives with resource requirements. Supporters believe that these actions could have been effective in meshing program planning with resource planning, but were undermined by the unrealistic budget planning projections at the time. Hence, despite the staff attempts

¹² John Bellinger, Director of the Defense Guidance Staff, *Strategic Planning and Decision-Making in the Defense Department*, Office of the Secretary of Defense, September 1984, p. 8.

to strengthen the *Guidance*, mid-term objectives did not fully integrate programs to meet the objectives of the Department, or relate them to realistic budget projections.

Strengthening this planning and guidance was a major goal of Secretary Cheney's *Defense Management Report*. The DMR recognized many problems with the existing *Defense Guidance*, as noted in the following:

Under pressures of the annual budget cycle, consideration of broad policies and development of guidance on high-priority objectives all too often has been neglected, and decisions made instead on a short-term issue-by-issue basis not well suited to optimizing the use of available resources. As a result, DoD's principal planning product, the *Defense Guidance*, now represents at best an early, negotiated settlement on the content of the Service and Agency programs.¹³

One can infer from Secretary Cheney's recommendations (see Table III-3)--and observers of the system have agreed--that the DoD planning system has lacked Secretarial involvement, has failed to produce a constrained military strategy that represents difficult choices by the military leadership, has failed to establish priorities among objectives and goals, has been unclear in its funding implications, and has had no mechanism for relating acquisition programs to Secretary of Defense, CJCS, or CINC priorities.

Table III-3. Defense Guidance Problems Addressed in the *Defense Management Report*

- Lack of Secretarial involvement - low-level participation of large number of committees
- Lack of constrained military strategy that expresses choices
- Lack of priorities in objectives and goals
- Funding implications unclear
- No roadmap of future acquisition program reflecting SecDef, CJCS, or CINC priorities

Source: DMR, pp. 5-6.

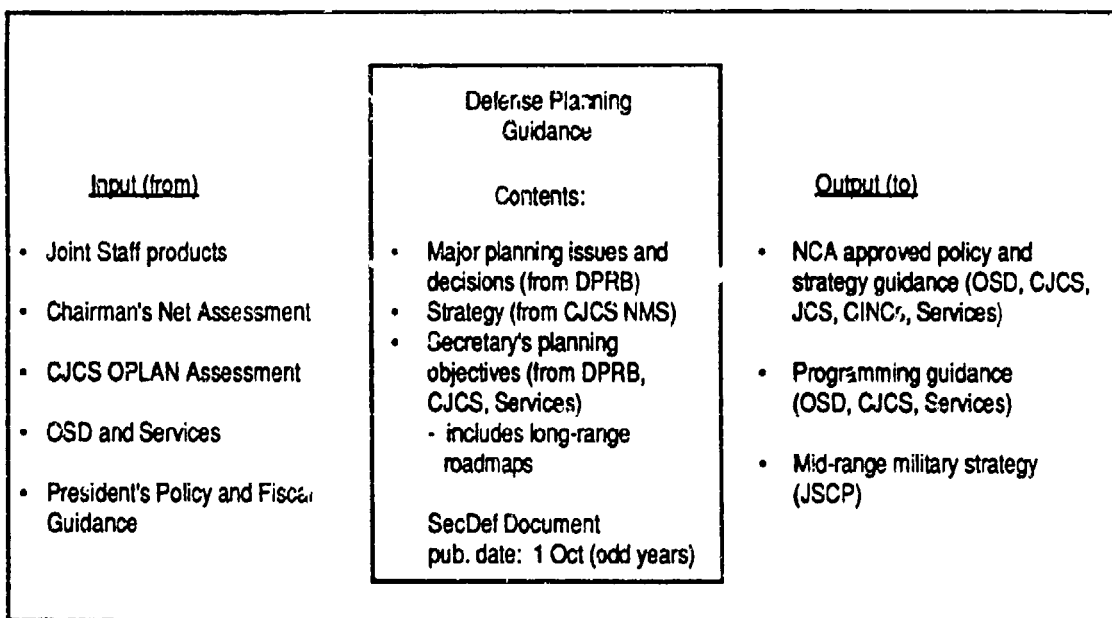
In the DMR, Secretary Cheney ordered changes to address these problems. The new issue-cycle process for developing the *Guidance* is meant to focus on DoD's most important problems as part of the normal planning system. The new DPG will contain the results of decisions generated by the Secretary of Defense in response to major policy reviews. (See Figure III-1 for a description of the proposed DPG.)

¹³ *Defense Management Report*, op. cit., pp. 5-6.

The substance of the proposed *Guidance* has also been changed dramatically. According to the DMR, the DPG would contain

. . . a dramatically shortened and more concise section on forces, incorporating only a limited set of high-priority "Program Planning Objectives" that will be mandatory guidance to the Services and Defense Agencies; [with] broad identification of the projected impact of these objectives on future funding . . .¹⁴

In an attempt to replace mid-term objectives and make them more useful, new program planning objectives (PPOs) will focus only on selected high-priority areas rather than attempt to cover the majority of Service programs.



Source: Joint Staff and OSD.

Figure III-1. Proposed Defense Planning Guidance (DPG) Process and Contents

In addition, the biennial planning cycle was to include a long-range investment plan. The precise format and method of calculating this plan has not yet been defined but it will include:

. . . a rough, 20-year 'road map' of the modernization needs and investment plans of DoD, projecting the impact of the Program Planning Objectives, and of additional modernization or replacement of major systems (e.g.,

¹⁴ *Defense Management Report*, p. 6.

ships, aircraft, tanks, and satellites) expected by the Military Departments and Defense Agencies, against realistic levels of future funding.¹⁵

The first DPG following the DMR was to be published on October 1, 1989, but in fact it was published on January 24, 1990.¹⁶ In preparing the DPG, the Secretary of Defense had to struggle, as have past administrations, with how to provide guidance to the Services and other components that is specific enough to constrain, but general enough to allow the flexibility needed for effective management. In addition, rapidly changing world events throughout the second half of 1989 made it difficult to settle planning issues. Hence, the new DPG was published without three of the proposed new elements: the Illustrative Planning Scenarios, PPOs, and investment roadmap.

Although the DMR proposal indicated that PPOs would focus on the Secretary's high priorities, suggesting that they would provide a strong mechanism for guiding components, the actual process undertaken in the Summer of 1989 was structured to develop a consensus on a core set of programs. The process for developing PPOs was initiated in the summer of 1989 through an exercise that requested 10 candidate PPOs from each military department, 5 from the CJCS, 3 from each CINC, 5 from each Under Secretary, and 3 from each Assistant Secretary. A total of 93 were received and reduced to 38 through review by the CJCS and the Deputy Secretary of Defense. The remaining 38 PPOs were grouped into a more manageable set of 12 strategic elements. In effect the process instructed each participant to continue to pursue traditional core programs--in effect providing no guidance. In the end, the DPG excluded PPOs.

The DMR also called for an investment roadmap to be incorporated in the DPG; however, an early decision was made to postpone implementation of such a roadmap until the 1991 calendar year DPG. Such a roadmap (and the process for developing it) would provide a mechanism for integrating modernization programs, and for examining the long-run financial implications of near-term program decisions.¹⁷ The DMR did not define the

¹⁵ *Defense Management Report*, p. 6..

¹⁶ See Patrick E. Tyler, "New Pentagon Guidance Cites Soviet Threat in Third World," *The Washington Post*, pp. A1 and A9.

¹⁷ Extended Planning Annexes used to be submitted with the POMs to provide visibility of projected spending beyond the FYDP. There was general agreement that the quality of these projections negated their utility, and so they were curtailed in 1987. Beginning in 1988, the Department undertook to develop Long Range Planning Estimates to obtain improved information on the long-run resource implications of decisions. The purpose of the Planning Estimates was to "...provide a gross 'check' on the future consistency, cost, executability, balance, and supportability of the FYDP's forces/programs. Among other applications, this information would help in calculating specific mid-term objectives in the Defense Guidance, assuming that the DG's fiscal guidance projections are not grossly dissimilar."

contents for the roadmap, and subsequent proposals have differed in several essential aspects: the approach to resource constraints; time horizons; and timing of submission. The differences stem from the basic question of whether the roadmap should serve as a decision document or simply as a rough baseline of programs for informational purposes. We conclude that the roadmap should serve as a guide for decisionmaking. Hence it should be developed within a process that incorporates realistic budget levels, links with the joint military's force planning processes, and is timely enough to be reflected in the POMs.

In sum, we conclude that the DMR's proposed reforms of the DPG are on target in creating the elements of guidance necessary for linking the DoD decisionmaking processes with planing. The most significant improvement would come from the development of an investment roadmap that reflects realistic projections of resources. The prototype management system discussed in Chapter VI describes a planning process for developing such a roadmap and provides suggested formats for implementing the DMR's recommendations for the *Defense Planning Guidance*.

C. THE STRENGTHENED ROLE OF THE CHAIRMAN OF THE JOINT CHIEFS OF STAFF

The joint military organizations provide the Secretary with military advice on the National Military Strategy (NMS) and recommend forces needed to meet national security objectives. Two joint planning processes created for these tasks are the Joint Operational Planning System (JOPS) and the Joint Strategic Planning System (JSPS). JOPS focuses on near-term operational strategies relating to how existing forces are deployed and would be employed in combat.¹⁸ The JSPS provides the framework for establishing the long-range NMS and for setting long-range force development goals.¹⁹

See William H. Taft, IV, "PPB Schedule," Memorandum for the Members of the Defense Resources Board, July 14, 1988.

¹⁸ *The Joint Staff Officer's Guide*, 1988, Chapter VI, pp. 125-206; see especially pp. 128-134.

¹⁹ This section discusses the JSPS as described in MOP 7, 30 January, 1990. A discussion of how the JSPS operated before this change is contained in *The Joint Staff Officer's Guide*, pp. 103-108, and *The Joint Strategic Planning System*, MOP 84, Joint Chiefs of Staff, with Revision, 24 January 1989.

1. Near-Term Planning: The Joint Operational Planning System

The JCS's near-term planning system, JOPS, apportions forces to the CINCs for near-term operational plans so that each CINC knows what forces are available to him. Each CINC is responsible for planning how to use assigned forces to carry out his mission. Because this planning is short-ranged, it focuses on how to use existing forces, rather than how long-range strategy might be adapted with possible new forces. These processes are relevant for assessing near-term force goals and deficiencies in the areas of readiness or sustainability, but are not structured to examine long-range force development issues.

Despite this near-term focus, the CINCs have an important role in long-range planning. A dialogue between each CINC and the National Command Authority (NCA) is necessary to acquire the most effective forces. The leadership must know about the expected threats faced by the CINC, and must review the planned response to these threats, including campaign plans. Their perspective is vital in assessing total budget requirements and the specific weapons and forces required. In recent years, procedural changes have recognized this by increasingly involving the CINCs in long-range planning.

2. Strategic and Long-Range Planning: The Joint Strategic Planning System (JSPS)

The JSPS is the formal means by which the Chairman, in consultation with the members of the JCS and the CINCs, carries out his responsibilities to provide long-range plans and strategic direction for the Armed Forces. The JSPS provides the means for the Chairman to assess the security environment, evaluate the threat, and propose the military strategy and force capabilities necessary to achieve U.S. national security objectives consistent with policies and priorities established by the Secretary of Defense.

Historically, the concern with JCS long-range planning was that it focused on "planning forces" that far exceeded those that could be supported with available resources, and that it tended to reflect an aggregation of individual Service views rather than an independent integrated view. Hence, JCS force goals were not directly useful for developing an overall program consistent with resources in the *Defense Guidance*. Reforms in Goldwater-Nichols have directly addressed both of these issues.

The JSPS was being revised as the new DMR planning system was being implemented. Several weeks before the DMR was published, Admiral Crowe said that it was "time to shift into second gear" in changing the system, and the DMR provided further

impetus. Problems in the JSPS as seen by the Joint Staff included unresponsiveness to the changing national security environment; a lack of top-down guidance; too many documents; documents based on consensus; too much review and staffing of reports; and a lack of influence of the products of the process in DoD decisionmaking. (See Table III-4.)

The JSPS has been restructured (depicted in Figure III-2) in order to reduce the number of documents produced by this system to four, and increase the role of the Chairman as the manager of the staff process and documents. The Chairman's *Guidance* and the *National Military Strategy Document* (NMSD) are intended to offer an integrated viewpoint, rather than reflecting an aggregation of the individual strategies of the Services and defense agencies. The NMSD conveys the advice of the Chairman--in consultation with the other members of the Joint Chiefs of Staff and the CINCs--to the Secretary of Defense and the President on the force structure required to support the attainment of the national security objectives. It appraises the threats to U.S. national security objectives; recommends national military objectives derived from national security objectives; appraises U.S. defense policy, as stated in the current DPG, and recommends changes; recommends planning force levels to execute that strategy with a reasonable assurance of success in the planning period; and recommends fiscally constrained force levels that conform to the fiscal guidance provided by the Secretary of Defense. The Military Strategy developed through this process is presented in the Chairman's statement of strategy, providing a general framework for force planning. Exhibit III-1 provides Admiral Crowe's statement of strategy as presented in the Joint Military Net Assessment.

Table III-4. Why the Joint Strategic Planning System Has Been Changed

Changes Incorporated in New JSPS February 1989	
DOD REORGANIZATION ACT OF 1986 <ul style="list-style-type: none"> Increased responsibility of CJCS More participation by CINCs 	NMSD 219 (IMPLEMENTATION OF PACKARD RECOMMENDATION) <ul style="list-style-type: none"> Fiscally constrained strategy Broad military options Net assessment, evaluation of risk
JOINT STAFF ORGANIZATIONAL CHANGES	OTHER <ul style="list-style-type: none"> Dep SecDef memo - DG timelines and planning period Attempts to synchronize JSPS with PPBS Attempts to improve some documents
Reasons for Thorough Overhaul	
UNRESPONSIVE TO RAPIDLY CHANGING NATIONAL SECURITY ENVIRONMENT <ul style="list-style-type: none"> Single strategy review every two years Too many bulky documents unrealistic and not used Some documents published late Weak influence on Defense Guidance/Service POMs 	LACK OF TOP-DOWN GUIDANCE <ul style="list-style-type: none"> Documents built from bottom up Leadership not engaged early in planning cycle
DOCUMENTS ARE CONSENSUS DOCUMENTS <ul style="list-style-type: none"> MOP 84 is JCS approved document All JSPS documents require JCS approval (according to MOP 84) "Line-in-line-out" mentality takes over too early 	EXCESSIVE STAFF OVERHEAD <ul style="list-style-type: none"> Too many bulky documents Documents not well integrated
LINGERING CRITICISM <ul style="list-style-type: none"> JSPD not relevant 	

Source: Joint Staff, Spring 1989.

Exhibit III-1. U.S. Military Strategy

a. The National Military Strategy is but one component of national security strategy. The military, along with the diplomatic and economic components of national security strategy, seek to ensure and protect these key enduring national interests:

- (1) The survival of the United States as a free and independent nation, with its fundamental values and institutions intact.
- (2) A healthy and growing economy, by maintaining and strengthening the US industrial, agricultural, and technological base and by ensuring access to foreign markets and resources.
- (3) A stable and secure world, free of major threats to US interests.
- (4) The growth of human freedom, democratic institutions, and free market economies throughout the world, linked by a fair and open international trading system.
- (5) Healthy and vigorous alliance relationships.

b. The broad national interests listed above are supported by a wide range of objectives that guide policy development and shape the national security strategy. The principal security objectives that influence the shape of the National Military Strategy are:

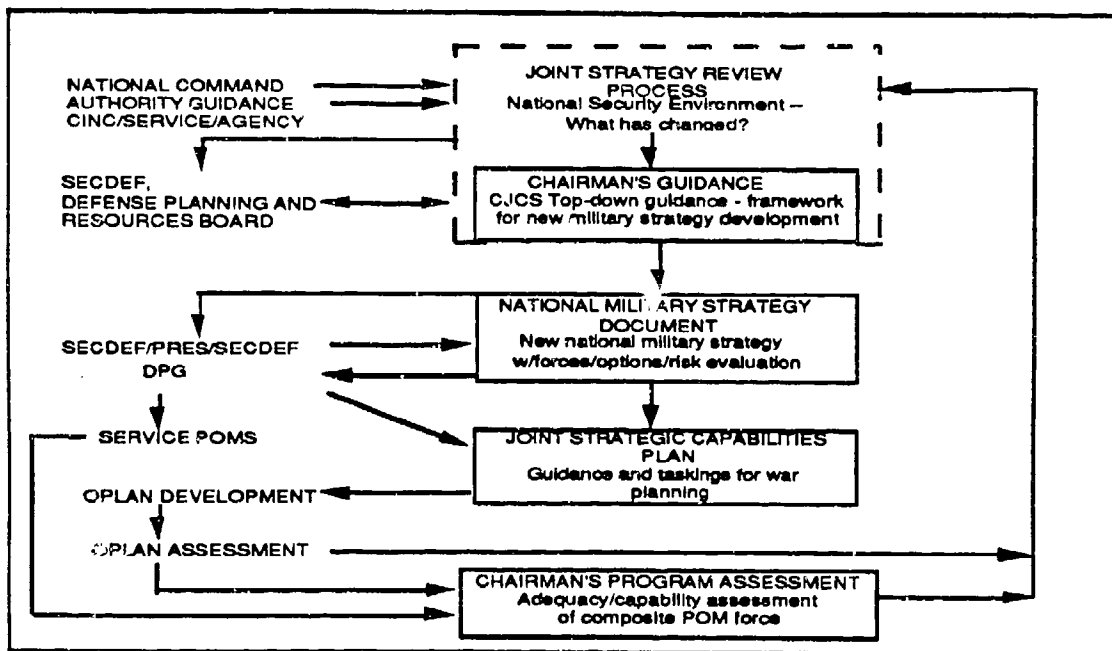
- (1) Safeguard the United States and its forces, allies, and interests by deterring aggression and coercion; and should deterrence fail, by defeating armed aggression and ending the conflict, at the lowest possible level of hostilities, on terms favorable to the United States, its allies, and its interests.
- (2) Encourage and assist allies and friends in defending themselves against aggression, coercion, subversion, insurgencies, and terrorism.
- (3) Where possible, reduce Soviet presence throughout the world, increase the costs of Soviet use of subversive forces, and foster changes within the Soviet bloc that will lead to a more peaceful world order.
- (4) Prevent the transfer of militarily critical technology to the Soviet bloc.
- (5) Pursue equitable and verifiable arms reduction agreements.

c. The security of the United States is inextricably linked to the security of its hemispheric neighbors, north and south. As a result, the defense of North America is the nation's most fundamental security concern. US national interests, as well as political principles, have led the United States to promote democracy and economic progress throughout the hemisphere. The United States has relied on a hemispheric security system composed of a strong US deterrent, broad cooperation with Canada, and collective security arrangements with Latin America.

d. US defense policy throughout the postwar period has been aimed at deterring aggression against the United States and its allies. Deterrence works by persuading potential adversaries that the cost of their aggression will exceed any probable gains. Deterrence is the basis of US military strategy against conventional as well as nuclear aggression. Because any conflict carries the risk of escalation, the US goal is to prevent aggression of any kind. The United States also seeks to prevent coercion of its allies, friends, and itself. Successful coercion could give a hostile power the benefits of victory without the cost of war. To deter, the United States must make it clear that it has the means and the will to respond effectively to coercion or aggression against its security interests. While emphasizing the resolve to respond, US policy is to avoid specifying exactly what the level of response will be.

e. The US purpose is to prepare for war so well that aggression is successfully deterred. If deterrence fails, US strategy seeks to secure all US and allied interests and to deny the aggressor any of his war aims. The United States would seek to terminate any war at the earliest practical time and to restore peace on terms favorable to the United States and its allies. US strategy seeks to limit the scope and intensity of any war and confine it to conventional means. The US goal is to end hostilities on terms favorable to the United States by employing conventional forces that do not engender the risk of escalation. If attempts to limit the scope or intensity of war fail, however, US strategy provides for the flexible and sufficient application of force to ensure that no area of vital interest is lost by default.

Source: 1989 Joint Military Net Assessment, CM-2943-89, Office of the Chairman, The Joint Chiefs of Staff, Washington, DC, 18 May, 1989, pp. 2-4 and 2-5.



Source: Joint Staff Briefing Charts, February 1990.

Figure III-2. New Joint Strategic Planning System

The fiscally constrained force planning now embedded in the JSPS should serve as a common denominator for meshing force planning with resource planning. It is essential that force goals developed within the JSPS be specified in sufficient detail to provide needed inputs for both military net assessment analyses and resource analyses. This will require that the Joint Staff identify goals for force modernization, readiness, and sustainability as well as for force structure, and relate these to the National Military Strategy options approved by the CJCS and the Secretary.²⁰

In summary, the formal joint military institutions are evolving as directed by Goldwater-Nichols, NSDD 219, and the DMR. Both the CJCS and the CINC's have significant roles in developing the National Military Strategy. Recent revisions of the JSPS, which place it under control of the CJCS and require resource-constrained force planning, should significantly increase the influence of the joint military organizations in

²⁰ The NMSD research and development (R&D) annex should also be helpful in linking acquisition to strategy. The annex provides a cost perspective in the Service, unified and specified command, and defense agency requirements for R&D in support of national security objectives and associated military strategies. It addresses, by mission area, deficiencies in present and projected operational capabilities that will require major R&D efforts to correct; establishes a prioritized set of major R&D objectives addressing these operational deficiencies; and establishes a joint position on R&D efforts and provides input to the force and resource planning guidance section of the DPG. In the past, however, the R&D annex has not been connected to any OSD or Service activity and has had no impact on R&D activity.

shaping military forces. However, meeting the objective of meshing force planning with resource planning will require the Chairman to stipulate goals for force modernization, readiness and sustainability, as well as for force structure. Examples of how such goals might be specified and meshed with resource planning are presented in Chapter VI.

D. SERVICE STRATEGY FORMULATION AND PLANNING

The Military Services' strategies and doctrines reflect their long-standing historical perspectives on their roles and missions. While none of the Services has a single strategy document that explicitly describes the National Military Strategy or the military strategy of that Service, each does pursue a course based on strategy and tradition that is well understood by its members. The Army approach is primarily tailored to its role in Central Europe, with the Army the Air-Land Battle doctrine shaping planning and decisionmaking. The Navy and Air Force strategies have considerable continuity and are closely connected with historical justifications for their forces. The Navy has the Maritime Strategy. The Air Force has a less formal Air Power doctrine.

These Service strategies are broadly consistent with the National Military Strategy, and interrelationships among the Services regarding their respective roles and missions have been spelled out in a number of documents over the years. However, these strategies are not coordinated to the extent that they provide a coherent, integrated strategy for joint military operations.

This section reviews the planning process for each Service. We find that each has within its major warfare communities long-range plans that show how that community will maintain and replace its inventories of major weapons. These plans can best be viewed as blueprints for maintaining and upgrading the forces commanded by these communities, which see their responsibility as improving war-fighting capability within their respective mission area. The reconciliation and integration of their programs must therefore be accomplished at a higher level.

1. Army

The Army's strategy is a broad statement, articulated through numerous documents, of the capabilities required to fulfill its missions. The Army Posture Statement notes that satisfying the CINC's war-fighting requirements in consonance with national priorities and preparing the Army for the future are primary Army responsibilities. The strategic missions for Army Forces are articulated in The Chief of Staff's and Secretary's Annual Posture Statement to the Congress. These missions are to maintain, with other Services, a

strategic reserve capable of responding to threats in the Western Hemisphere and other contingency areas; to deter or if necessary defeat a Warsaw Pact attack on NATO and maintain its territorial integrity and security; to support allies in Asia, Latin America, and Africa; to deny Soviet control of Persian Gulf oil; to defend vital US interests in the Pacific; and to respond to other threats to U.S. interests anywhere in the world.

The Army, like the other Services, pursues a forward strategy based on ready contingency forces and the latent military power resident in the U.S. manpower and industrial base. This forward strategy is further articulated, in the case of NATO, in the Air-Land Battle Concept that recognizes the joint roles of Army and Air Force resources to deal with all echelons of the Warsaw Pact forces in blunting an attack.²¹ The principal air-land battle concept guides the mission area analyses and the force development planning in each of the Army's mission areas. Another influencing factor is the competitive strategies concept that the Army supports. The Army Posture Statement asserts that "today, forward deployed US ground forces are our Nation's most visible symbol of resolve, particularly in Europe and Northeast Asia." The statement also notes that the Army supports the war-fighting CINCs by providing organized, trained, and equipped forces.

The Army's strategic responsibilities are met through a very detailed series of planning steps. Long-range planning in the Army begins with estimates of future trends prepared by the intelligence community and the Office of the Deputy Chief of Staff for Operations inputs to the process for determining future Army needs. The Office of the Deputy Chief of Staff for Operations and U.S. Army Training and Doctrine Command develop implications for the Army and concept-based requirements that blend to yield a statement of future force capability and characteristics. The Army Long-Range Appraisal develops prioritized problem areas that are used jointly by the Training and Doctrine Command and Army Materiel Command to prepare force development plans, operation and organization plans and materiel acquisition plans.

The major Army documents include *The Army Long Range Planning Guidance*, which provides broad direction for the next 30 years; *The Army Plan*, which delineates force and resource allocations for the next 7 years and resource guidance for 15 years; and *The Long-Range Research, Development and Acquisition Plan and Mission Forces Materiel Plan*.

²¹ *Air Land Battle-Future*, presented to General Vuono, Combined Arms Center, June 2, 1988, and *Airland Battle-Future*, ALB-F SSG Decision Brief, April 6, 1988.

In recent years, the Army has developed a set of modernization plans which offer, in some detail, a replacement and modernization plan for major force and support systems such as aviation, fire support, armor, and wheeled vehicles. *The Aviation Modernization Plan*, for example, includes discussions of threat, war-fighting, force design and force structure, force modernization acquisition and resource strategy, and leadership development and training. It includes a helicopter replacement schedule based on force aging and threat, and a development schedule. It covers a full procurement schedule for types of helicopter for 10 years in the future.²² The Army's modernization plans have been built to support the air-land battle, and they contain concepts of the manner and order in which Army units should be equipped.

2. Navy

The principal expression of Naval objectives and the stated basis for Navy planning and programming is the *Maritime Strategy*.²³ The *Maritime Strategy* offers broad support for all Navy acquisition programs, even though strategy may not be explicitly related to each weapons system. The *Maritime Strategy* translates national strategic objectives into objectives, missions, and functions at varying levels of conflict. The principal objectives are strategic deterrence, sea control, power projections, and strategic lift. Navy warfare mission areas directly support these objectives.

The strategic concepts for the employment of Navy and Marine Corp maritime forces complement the forward orientation of the Army and the Air Force. The forward strategy, as it applies to the Soviet Union and the Warsaw Pact, basically is a counter-force strategy that is designed to blunt an attack on the West, to minimize disruption of the integrity of the Central Front and that of the NATO infrastructure, and to postpone a major confrontation.

The principal articulation of maritime strategy is found in the Annual Statements to Congress by former Secretary of the Navy John Lehman. The strategy is also referenced in Navy documents such as the *Naval Aviation Plan* and the *Chief of Naval Operations*

²² *Army Aviation Modernization Plan*, Office of Chief of Staff, United States Army, DAMO-FDV, Washington, DC, May 1988.

²³ The Navy's strategic policies are promulgated in *The Maritime Components of National Military Strategy*, which is issued by the Office of the Chief of Naval Operations as OPNAV Serial 60-P-89. This document provides broad planning guidance as well as broad concepts for the employment of Navy-Marine Corps forces in support of national objectives. The public version has appeared as *The Maritime Strategy*, by Admiral James P. Watkins, USN, *Proceedings of the U.S. Naval Institute*, Supplement, January 1986, pp. 2-17.

(CNO) *Programming Guidance and Program Analysis Memoranda* (CPAM). Essential elements of maritime strategy include maintenance of the sea-based strategic deterrent (fleet ballistic missile submarines) and the general-purpose force roles of sea control/sea denial, power or force projection ashore, and the maintenance of peacetime force presence. These pillars of maritime strategy offer broad support for virtually all weapon system acquisition, even though strategy is seldom invoked as a determinative factor in initiating a new acquisition program.

The *Maritime Strategy* provides one basis for the development of the Navy POM. Other inputs include the *Department of the Navy Planning and Programming Guidance*, the *CNO Policy and Planning Guidance*, and the CPAMs. The CPAMs provide in-depth analysis of each major warfare task area and present alternative courses of action for achieving the goals and priorities of the CNO.

Longer range acquisition planning and its linkage to National Military Strategy tends to be driven primarily by a variety of concerns within the Navy, all related to maritime requirements, with little direct reference to the requirements of the JCS, CJCS, and the unified CINCs. However, the fleet CINCs (the maritime component commanders of the unified CINCs) provide inputs reflecting their regional concerns both through the joint processes as well as through the CNO and OPNAV. They also participate in many studies, war games, and senior symposia. In these capacities they help to reflect the views of the unified CINCs in maritime planning.

The longer range acquisition planning develops in a variety of forums. These include CNO meetings with the fleet CINCs; studies conducted by the CNO Executive Panel (OOC), the Naval War College, Post Graduate School, and laboratories; research done by the Center for Naval Analyses; meetings of the National Security Industrial Association (NSIA) and a variety of technological symposia; and studies such as that recently conducted by the Naval Studies Board of the National Academy of Sciences (the Navy of the Twenty-First Century).²⁴

The overall Navy planning effort appears to be well coordinated, and strong oversight from the Office of the CNO provides clear policy guidance throughout this network of activity. This process indicates that the Navy understands how its force units

²⁴ *Navy 21: Implications of Advancing Technology for Naval Operations in the Twenty-First Century, Volume I, Overview*, Naval Studies Board, Commission on Physical Sciences, Mathematics, and Resources of the National Research Council, National Academy Press, Washington, DC, 1988.

can and should evolve, but as with the Army, its focus is primarily on its individual roles and missions.

3. Air Force

Among Air Force leaders is a widely held and uniform body of knowledge that encompasses the elements of National Military Strategy (such as deterrence, forward deployment, rapid reinforcement, and dependence on alliances) as they relate to the air power doctrine that has developed over the first century of flight. The elements of air doctrine include the belief in the decisiveness of air power, the importance of achieving air superiority, the necessity for centralized control of air assets within an operating theater, the high value of interdicting enemy resources before they can be brought to bear against friendly forces, and the importance of man-in-the-loop decisionmaking. This strategy accounts for the Air Force's commitment to manned bombers, its preference for flexible rather than specialized aircraft (fighter bombers instead of close air support aircraft), and its reluctance to embrace unmanned aerial vehicles as an alternative to manned systems. These elements have long-term continuity, and they tend to have a stabilizing effect on Air Force decisionmaking during the resource allocation and weapon system acquisition processes.

Beyond the delivery of systems currently contained in the Five-Year Defense Plan, no truly long-range Air Force plan exists. Longer range studies and planning are underway, but these efforts are more narrowly focused and do not cover the broad structure of the Air Force in the years beyond 2000.

While the Air Force's Project Forecast II identified technologies which represent potential force multipliers for the future, the Air Force does not develop documented plans for the force levels it might be able to afford 10 or 15 years in the future. Most of the formally documented Service planning activity is of much shorter range and is geared to the shorter cycle of the Planning, Programming and Budgeting System. The Air Force develops, for its own internal use, a series of documents that are based on the the Secretary of Defense's DPG. In the aggregate, these planning documents provide a significant amount of information to the programming portion of the PPBS process, but the planning function does not begin to achieve the importance in the resource allocation process that its champions advocate.

E. OBSERVATIONS: THE PARALLEL PATHS LINKING STRATEGY AND PLANS

This chapter has considered the processes and organizations for formulating strategy, for long-range planning, and for issuing guidance within DoD and at the national level. Our general finding is that there are, in effect, two parallel paths through which National Military Strategy is translated into plans. The first path is the formal linkage through the joint military-OSD planning process, which provides the basis for developing the *Defense Planning Guidance*. The second path is through the individual plans of the Service warfare communities, and other defense components, which plan for the future of their organization based on their understanding of the NMS and their individual views of their roles and missions.

The historical criticisms of DoD planning stem from the concern that the Service-based path has predominated in shaping defense decisionmaking, because the existing defense management system provided the Secretary with an aggregate of these plans, which did not resolve the competition for limited resources. Many recent reforms have been aimed at strengthening the joint military-OSD path of linkage. As we have found, substantial progress is being made. Our specific findings are as follows:

- At the national level, the President has provided a general view of objectives and strategy over the years. While the objectives and strategy have not always been formally articulated, the basic tenets are well understood. The national-level strategy is not linked to resources, however, and as a result it functions only as a general guide for DoD decisionmaking.
- Historically, the Secretary of Defense's *Defense Guidance* did not provide a roadmap for integrating programs. It was prepared through low-level committee consensus rather than executive decision, and did not correlate guidance with realistic resource constraints. Recent proposals in the *Defense Management Report* address these weaknesses in the *Guidance*, by establishing planning scenarios and an investment roadmap. But these have not yet been adopted. In particular, a mechanism is needed for developing the proposed long-range investment roadmap.
- Recent reforms by the Chairman of the JCS in carrying out the Goldwater-Nichols Bill have given him the power to play a major role in defining force goals linked to resources. As yet, CJCS force planning continues to focus on force structure for a single planning scenario, and is not closely meshed with long-range resource planning. Force planning must be meshed with resource planning, and to do this JCS force planning must establish goals for modernization, readiness, and sustainability.

- The Services' long-range planning reflects their strategies and their individual views of their roles and missions. These plans reflect the long-range goals for the major Service warfare communities. A DoD-wide planning framework should draw upon and integrate the Service's plans.

In view of these findings, the prototype management system outlined in Chapter VI proposes two changes in joint military-OSD planning. The first is to strengthen planning. The proposed process would address strategic options identified by the Secretary, mesh JCS force planning with OSD/Service resource planning, and integrate the results across missions, functions, and Services. The second is to adopt the DMR's recommendations for the *Defense Planning Guidance*. Elements of guidance should include scenarios, goals, and an investment roadmap to provide the needed linkages from strategy to near-term decisions.

IV. PROGRAMMING AND BUDGETING

This chapter examines the DoD management system supporting the Secretary of Defense in formulating specific programs and budgets. Our review is structured around the four main phases of this process. First, a programming cycle begins when each Service and defense agency begins preparing its five-year program proposals in its Program Objective Memorandum (POM). Second, the Defense Planning and Resources Board (DPRB) reviews these proposals and develops a unified Five-Year Defense Program (FYDP). Third, based on this approved program, and fiscal guidance for the budget period, the Services prepare individual budgets for the next two years. Finally, the DPRB reviews these proposals, and the Secretary's decisions are incorporated into the department's proposed budget that is then forwarded to the President.

In the conceptual framework outlined in Chapter II, DoD's programming and budgeting activities would flesh out specific actions needed to meet the long-run goals established in the planning process. The POM and budget proposals as well as the DPR reviews would *follow from* (a) the DoD's long-range goals conveyed in the *Defense Planning Guidance*, and (b) the budget guidance provided by the nation's political leadership. Execution reviews should track the progress made toward accomplishing long-range goals using the DPG's goals and roadmap as benchmarks.

The critiques of defense management prior to the Packard Commission and the Goldwater-Nichols Act, summarized in Chapter I, concluded that weaknesses in planning and guidance caused the Secretary to rely heavily on the DPRB's reviews of proposed POMs and budgets for *formulating* as well as *implementing* integrated programs and budgets. Two main concerns were raised regarding the effectiveness of this practice for creating integrated overall forces and programs. One is that the DPRB reviews lacked a roadmap to frame issues and choices in terms of long-run, integrated force goals, although they were effective in "scrubbing" component proposals. The other concern was that the DPRB reviews looked systematically only two to five years in the future, and thus could not consider the long-run budget implications of near-term acquisition program decisions.

There was a parallel criticism that DoD was forced into this mode of near-term decisionmaking, due to the lack of any national budget guidance that would ensure longer-range decisions were politically viable.

Our review examines these issues in view of the changes made since the Packard Commission and Goldwater-Nichols Act in 1986, and assesses current practices. This chapter first briefly addresses the national-level budgeting processes. Then it discusses the three main organizational participants in DoD programming and budgeting: the Services, the DPRB which conducts the Secretary's program and budget reviews, and the Chairman of the JCS and the joint military organizations. Four main findings, summarized in Table IV-1, are detailed below. (The table follows the format used to summarize the findings of Chapter III).

- **National Political Leadership:** A long-standing concern has been that Congress and the President have not provided the budget guidance needed for DoD to establish stable programs, but rather micromanages programs through detailed line-item reviews of DoD's proposals. Proposed remedies have included two-year budgeting and proposals for Congress to issue five-year budget guidance. As a practical matter, such procedural attempts to establish consensus and budget stability are unlikely ever to be adopted: Congress lacks the organizational structure and political consensus needed to provide such leadership. Moreover, neither Congress nor the President wishes to make commitments that might later conflict with evolving security, economic, or political factors. These political facts of life have two implications for DoD management. One is that the leadership remains with the executive branch for developing, proposing, and justifying concrete defense programs aimed at building a national consensus on defense. A second implication for defense management is that the Secretary's management system must be structured to accommodate a degree of budget uncertainty, as budgets will always reflect the changing views of the nation's electorate. An important aspect of such leadership is the need to develop budget proposals that are consistent with the public's support for defense.

- **Defense Agencies and Services:** Each Service and defense agency POM reflects its view of National Military Strategy and its traditional roles and missions. In the absence of an overall roadmap for guiding POM development, individual POMs cannot simply be stapled together to form an integrated Program, since there will be gaps or overlaps in the proposals. In addition, spending plans implicit in these proposals are not reconciled with overall budget projections beyond the five-year program period. POMs provide a core set of programs that are connected with National Military Strategy through

Table IV-1. Findings on Programming and Budgeting

Organizations	Role in Conceptual Framework	Historical Concerns	Reforms Since 1996	Current Assessment
National-Level	<ul style="list-style-type: none"> Congress and President issue guidance on budget top line Congress and President review programs in view of consensus goals 	<ul style="list-style-type: none"> Short-run focus of President and Congress yields unstable budgets Micromanagement President's fiscal guidance has been unrealistic 	NONE	<ul style="list-style-type: none"> Presidential and congressional review processes remain disjointed and short range in perspective No national consensus on defense, but some near-term agreements on top line reached on a year-to-year basis The President still needs integrated options to help build a consensus on defense
DoD-Wide (SecDef, DPRB and OSD)	<ul style="list-style-type: none"> Near-term resource allocations follow from DPG's and roadmap goals Progress reviews follow up decisions 	<ul style="list-style-type: none"> Limited perspective <ul style="list-style-type: none"> Issue papers disjoint No visibility of long-range cost implications or goals No follow-up on decisions 	<ul style="list-style-type: none"> DMR creates single executive secretary for all phases of PPB DMR proposed DPG financial road map provides long-range perspective 	<ul style="list-style-type: none"> DPRB still needs procedures to link its reviews and decisions with guidance Execution reviews still need the DPG's goals and roadmaps as benchmarks
Joint Military (CJCS, Joint Staff and CINCS)	<ul style="list-style-type: none"> Joint military is chief proponent for integrated forces CINCS play major role 	<ul style="list-style-type: none"> Joint military a weak proponent for integrating programs CINCS not heard 	<ul style="list-style-type: none"> Chairman has independent voice in resource allocation as a result of Goldwater-Nichols CINCS involvement in resource allocation has increased steadily since late 1970s 	<ul style="list-style-type: none"> Joint military is active in the DPRB processes CINCS satisfied with their involvement. Unfilled CINCS focus on readiness and sustainability, not on acquisition of major systems CJCS should help develop overall goals and roadmap in addition to reviewing proposals
Services and Defense Agencies	<ul style="list-style-type: none"> POBs follow from integrated force goals of SecDef and CJCS 	<ul style="list-style-type: none"> Services' and Agencies' POM reflect their individual views of their roles and missions 	NONE	<ul style="list-style-type: none"> Service and Agency POMs still need guidance so that they will reflect integrated goals

the Service strategies; however they must be meshed together by the Secretary to become part of an overall integrated program.

- **DoD-Wide Defense Planning and Resource Board:** Critics of the DPRB review processes objected to their limited perspective, caused by the lack of explicit long-range goals and an associated resource roadmap to guide those reviews. If the DPRB incorporated such a roadmap in its reviews, it would be possible to frame review issues in terms of long-run goals. This would systematically reveal the total planned, or implicit, resource commitments associated with near-term acquisition program decisions, permitting more effective management of the overall modernization program. Therefore, we conclude that the most pressing needed action in the programming and budgeting area is to define procedures that ensure the DPRB reviews incorporate the long-range investment roadmap proposed in the *Defense Management Report*.

- **Joint Military Organizations:** Prior to the Goldwater-Nichols Act, there was significant concern that joint military organizations did not have an adequate voice in the DPRB review process. Changes since 1986 have substantially strengthened the voice of both the CJCS and the CINCs at every stage, and they now have substantial opportunities to comment upon and shape programs and budgets. Nevertheless, we believe the joint voice could be further strengthened by emphasizing the role of planning in the defense management system. This would permit the joint military to contribute in shaping the overall direction of the defense program without becoming mired in the details of programming and budgeting.

Chapter VI proposes procedural changes designed to frame programming and budgeting issues and choices in terms of the long-range goals and roadmap that are to be published in the Secretary's *Defense Planning Guidance*. Three general steps are suggested. First, the DPG's goals, milestones, and roadmaps must be kept current and made available to the Services and defense agencies in time for developing their POMs. Second, the Secretary's program and budget reviews should adopt procedures to ensure the staff incorporates these elements of guidance as a primary basis for framing review issues and judging Service POMs. In addition, program progress should be tracked in DPRB execution reviews based on the DPG's long-range goals. Third, in order to help build a consensus and shift the national-level debate toward longer-range strategic issues, the DoD should present, explain, and defend its programs to the President and Congress in terms of long-range goals that are consistent with public support for defense spending.

A. NATIONAL-LEVEL GUIDANCE AND BUDGETING

There has been long-standing concern that the Secretary's ability to integrate defense programs has been undermined by the lack of national level guidance for formulating budgets. One criticism has been that Congress fails to work with the President to provide the needed up-front guidance on defense budgets, and reacts to proposed budgets by micromanaging individual budget line items. This Congressional micromanagement undercuts the Secretary's authority to discipline subordinates to settle issues and adhere to his decisions.

This section addresses these issues through a review of the defense budgeting since World War II. We first briefly examine some of the factors shaping defense budgets in the post World War II era. Presidential leadership has substantially influenced defense budgets and the emphasis on major mission areas. However, to provide such leadership, his policies and budgets must be consistent with the underlying trends in the security environment, military balance, and domestic economic factors that determine public support for defense spending. Congress has followed the President's lead when his policies have public support. There are, however, notable cases where Congress has overruled the President, particularly during the Vietnam war and in the later Reagan years. The implication for defense management is that the Secretary must support the President in leading the nation on defense budgets by proposing coherent defense programs that are consistent with the likely resources that will be requested by the President and appropriated by the Congress.

1. Security Concerns, Economics, and Defense Budgets

Public support for defense is shaped by both security concerns and economic factors. The tension between these considerations has been an important factor shaping defense budgets since World War II.¹ The security side of the budget equation reflects the evolving U.S. strategy in the post-World War II era, the changes in Soviet capabilities and intentions, and U.S. involvement in regional hostilities. Table IV-2 examines defense budgets and their relationship to prevailing strategic doctrine. The size of the budget has

¹ The characterization of national security policy is derived from the presentation of these policies in John Lewis Gaddis, *Strategies of Containment: A Critical Appraisal of Postwar American National Security Policy* (New York, NY: Oxford University Press, 1982). Gaddis did not generalize his characterization, nor did he try to apply it to the Ford and Carter Administrations for which he had

reflected the intensity of the cold war, and the the costs of US overseas conflicts. Since 1947, annual defense outlays (DoD only) have ranged from 4.5 percent of GNP during the period following World War II (1947-1950) to a high of 11.3 percent in the early 1950s, during the Korean War.

Table IV-2. Defense Outlays as a Percent of GNP, 1947-1996, by Administration and National Security Strategy

ADMINISTRATION(s)	Fiscal Year		Characterization of Period	National Defense Outlays ^a as a Percent of Gross National Product			
				Average		Annual	
	First	Last		Base	War ^b	Total	First Last
Truman I	1947	1950	Early Containment	4.5	—	4.5	4.0 4.9
Truman II	1951	1954	NSC-68 and Korean War	7.6	3.7	11.3	7.0 12.4
Eisenhower	1955	1960	New Look	9.4	—	9.4	10.1 8.9
Kennedy/Johnson	1961	1965	Flexible Response	8.3	—	8.3	9.1 7.3
Johnson	1966	1969	Vietnam Buildup	6.5	1.9	8.4	7.5 8.4
Nixon	1970	1975	Vietnam Wind Down	6.0	0.5	6.5	7.9 5.7
Ford/Carter	1976	1980	Peacetime Buildup ^b	5.1	—	5.1	5.4 5.1
Reagan	1981	1986	Rearmament	6.2	—	6.2	5.4 6.6
Reagan/Bush	1987	1991	Gramm-Rudman	5.9	—	5.9	6.5 5.2
Five Year Projection ^c	1992	1996	Gramm-Rudman				
Constant Real ^d				4.7	—	4.7	5.0 4.4
Constant Nominal				4.4	—	4.4	5.0 3.8

Source: *National Defense Budget Estimates For FY1990/1991*, Office of the Assistant Secretary of Defense (Comptroller), March 1989, pp. 118-119; and OASD(Comptroller) printouts.

^a On a national income accounts basis.

^b Incremental costs of war buildup in budget authority began in 1968, but lag in outlays meant that 1970 was the first year that showed an increase by the measure used in this table.

^c Assuming constant nominal budget and 3 percent inflation, i.e., a decrease of about 3 percent per year in real terms.

^d Estimates assume GNP growth rate of 3 percent per year.

The composition of budgets has evolved in response to shifts in strategy. The steady decline in real spending for strategic forces since the mid-1960s reflects the completion of several major weapon systems (B-52, Polaris, and Minuteman), and a shift toward a deterrence policy of flexible response. General purpose spending, on the other hand, has risen steadily since the late 1940s and is even higher today than it was at the height of the Vietnam War (Table IV-2). The budget distribution among the Services has also changed over the years, with the Navy, for example, increasing from 25 percent in 1953 to 32 percent in 1990, the Army decreasing from 30 percent to 26 percent, the Air

limited documentation. The comments on those administrations and the Reagan and Bush Administrations are based on other sources.

Force decreasing from 45 percent to 32 percent, and defense agencies increasing from zero to 10 percent.

On the economic side of the balance, two distinctly different views are evident that tend to reinforce the security policies of each President. One is the Keynesian view that defense spending contributes to economic prosperity. This view was ascribable to Democratic administrations from 1950 until the Carter Presidency. The opposite, more traditional economic view is that the burden of defense reduces economic growth and, hence, detracts from the nation's economic welfare.² Typically, this view was held by Republican administrations until the Reagan Presidency.

The influence of economic factors in national security policy is apparent when one reviews the history of Presidential decisionmaking. Presidential decisions to propose increased defense budgets were supported by economists who supported increased spending. One important example was NSC-68, issued in the spring of 1950, which was influential in the rearmament of the early 1950s. A second example was the Gaither Report of the late 1950s,³ which resulted in the Kennedy administration's buildup of the early 1960s. President Johnson adopted an explicit guns and butter approach in executing the Vietnam war in the mid 1960s. The Reagan Administration provides another example, when optimistic growth assumptions were accompanied by the defense budget increases of the early 1980s.⁴ The basic argument was the same in each case--that the economy could grow more quickly and therefore could afford whatever level of defense expenditures was needed.

Fiscally conservative economists have tended to be on the other side in cases where reviews have recommended that balancing the budget should come first--as was the case

² For a good characterization, see Samuel P. Huntington, *The Common Defense: Strategic Programs in National Politics* (New York, NY: Columbia University Press, 1962), pp. 177-218. Writing before the Kennedy Administration and with limited public documentation on NSC-68, Huntington had little reason to discuss another possibility.

³ On the Gaither Report see *Deterrence and Survival in the Nuclear Age (The Gaither Report of 1957)* as reprinted by Joint Committee on Defense Production, Congress of the United States, 94th Congress, 2nd Session (Washington, D.C.: U.S. Government Printing Office, 1976). For the economics discussion, see pp. 12-14 and "Costs and Economic Consequences," pp. 22-24. More than 20 percent of this national security report dealt with economics.

⁴ For a discussion of the economic rationale for the Reagan defense, domestic, and tax programs, see Herschel Kanter, "The Reagan Defense Program: Can It Hold Up?," *Strategic Review*, Spring 1982, pp. 19-34. See especially pp. 20-23. The official view is contained in Office of Management and Budget, Executive Office of the President, *Budget of the United States Government, Fiscal Year 1983* (Washington, DC: U.S. Government Printing Office, 1982), pp. M3-M24.

early in the Truman administration and in the Eisenhower administration. Similarly, the discussion which led to the Gramm-Rudman-Hollings budget balancing law, and the termination of the Reagan defense buildup, was based on conservative economic argument.

Ironically, Presidents who were most active in constraining the defense budget during their own terms may have contributed to a later reaction, that led to later increases. The more frugal budgets of the 1950s and 1970s planted the seeds for subsequent increases. Presidents that allowed substantial defense budget increases also may have contributed to a political reaction. This argues that there may be an underlying sustainable trend in the public demand for defense spending from which spending deviates cyclically according to near-term political or economic factors. Presidential leadership can substantially influence public support, but there will always be limits imposed by competing demands on the federal budget.

2. Presidential Leadership and Congressional Review

Although the President has generally provided the leadership in setting defense strategy and budgets, Congress has been an increasingly active participant. The President's proposed budgets are typically scrutinized and reduced by the Congress. These adjustments may be marginal when there is general agreement on defense policy. However, when there have been major policy divisions, the changes have been substantial. For example, during the later Reagan Presidency, Congress and the President were at odds on national budget priorities, and Congressional changes in budgets were substantial.⁵ In the 1980s, the Congress cut President Reagan's request each year from 1982 through 1989.⁶ Since the fiscal year 1983 budget, Congressional reviews have resulted in reductions of \$15 to \$35 billion, or 5.5 to 10.8 percent. In some years these cuts were negotiated, in others they were unilaterally imposed by Congress.⁷

⁵ Even in the later years of the the Reagan Administration, during which the defense buildup lost support in the Congress, the defense budget was largely dictated by the Budget-Balancing Act that passed with Reagan Administration support in 1985. See Lawrence J. Korb, *"The Reagan Defense Budget and Program; The Buildup That Collapsed"*, in *Assessing the Reagan Years*, edited by David Boaz, (Washington, D.C.: 1983), CATO Institute, pp.83-94; see esp. pp. 89-93.

⁶ For example, the original FY 1986 request for \$313.7 billion was reduced to \$289.4 billion by the Congress, a reduction of 8.4 percent. See *National Defense Budget Estimates For FY1986*, Office of the Assistant Secretary of Defense (Comptroller), March, various years.

⁷ *National Defense Budget Estimates for FY 1985*, (Washington, D.C.: March 1984); Office of the Assistant Secretary of Defense (Comptroller), and subsequent editions through March 1989.

Congress's role in reviewing and authorizing individual line items has become considerably more detailed over the years. The separate annual authorizations of the defense budget, which began with just the shipbuilding funding accounts in 1960, has grown to include virtually the entire defense budget.⁸ Congress made about 600 line item changes in 1970, and that number grew to more than 2,100 line items, out of a total of about 2,500 line items, in the 1987 budget. However, these changes reflected the large reductions made in the overall budget that year. Congressional changes dropped to about 750 line items in the 1989 budget, reflecting the early agreement of the President and Congress on the budget top line in that year.⁹

Congress has always been actively involved in defense decisionmaking; however, it has lacked the institutional structure and political cohesion needed to develop a long-range view of defense issues. Congress, therefore, has generally only responded to the budgets proposed by the President, as opposed to providing its own long-range, integrated vision for defense policy. Although the changes made are often significant, their effect on the overall balance of the defense program should not be exaggerated. While many of the changes represent attempts to redirect policy, a large number reflect marginal changes to accommodate top-line budget cuts, or bookkeeping adjustments. The best way to minimize such changes is to provide a proposed budget close to the level the public can be expected to support.

3. Two-Year Budgeting

The Packard Commission recommended two-year budgeting for defense in order to help stabilize the defense budget. DoD responded by implementing a two-year budget cycle in 1987. The first two-year budget was proposed to Congress in January 1988. However, thus far Congress has been unwilling to change, and continues to review and approve the DoD budget annually. The new two-year PPBS cycle eliminated some annual rewriting of the *Defense Planning Guidance* and Five-Year Defense Program, but with the entire federal government on an annual cycle, stabilizing the budget for two years has proven impossible.

⁸ Ibid, p. 96. "Congress Find New Ways to Micromanage FY90 Budget," *Armed Force Journal International*, November 1989, pp. 8 and 11-12, see especially p. 11.

⁹ See Richard Lardner, "Report Says DoD Needs Greater Flexibility to Make Budget and Policy Decisions," *Inside the Pentagon*, December 22, 1989. The article contained a summary of the Pentagon White Paper on Congress and the defense budget.

Instituting a two-year budget initially was complicated by the fact that in 1987 the President and Secretary of Defense were still projecting annual growth rates that far exceeded the funding that the Department was likely to get. Thus, while the new Secretary of Defense Carlucci had to adjust the FYDP to more realistic projections, he was in a poor position to implement an extended defense budget. Today, budget uncertainties and debates seem to virtually eliminate the possibility of Congress adopting a two-year budget within the foreseeable future.¹⁰ As a political fact of life, the Secretary must design the management system to operate without firm budget commitments.

In summary, the history of defense budgeting shows that security concerns, domestic economic factors, and Presidential leadership all influence defense budgets. Political leaders have strong incentives to retain their flexibility to respond to their constituents, so as a practical matter procedural attempts to commit the political leadership to stable defense programs are unlikely ever to be workable. Therefore, effective management requires that the Secretary support the President in establishing the needed public consensus on defense by developing and justifying programs he believes the public will support. At the same time, the Secretary must design the DoD management system to consider a range of budget futures (in accordance with the principles described in Chapter II) in order to cope with the budgetary uncertainty inherent in the American political process.

B. CREATING PROGRAMS AND BUDGETS WITHIN THE SERVICES

Within the Department of Defense, programming and budgeting begins with the development of Program Objective Memoranda within the Military Departments, based on the fiscal guidance provided by the Secretary of Defense. The Service POMs provide the basic core of programs that eventually will be reflected in the budget. The process begins at least a year before the POMs are submitted for the Secretary's review. Because of the long lead time of the process, the proposals generally reflect the ongoing activities within the Services, tempered by their expectations of the ensuing guidance on programs and

¹⁰ One procedural reform proposed recently would focus Congressional decisionmaking on annual budgets looking three years into the future. Under this plan, "[t]he first year would form the coming year's budget, as is the case today, but the next two years would also be considered firm. The executive branch, in preparing the subsequent budget for the next January submittal, would then add a new 'third year'--the only year subject to Congressional debate. In essence, the Congress would be approving a three year fiscal plan on an annual but revolving basis." See Jacques S. Gansler, "A Defense Budget Process as if Dollars Mattered," *Issues in Science and Technology* (Washington, D.C.: National Academy of Sciences, Spring 1990), p. 33.

resources that will have to be accommodated in their POMs when they are ultimately submitted to the Secretary.

Although each Service conducts its portion of the PPBS somewhat differently, the basic principles are the same. As discussed in Chapter III, each Service has its conceptual view of military strategy as it applies to its own set of missions: the Army's AirLand Battle strategy, the Navy's Maritime strategy, and the Air Force's Air Power doctrine. These form the basis on which the Services design their forces, and these designs provide the Services with basic outlines for developing their POMs. Hence the POMs generally reflect the Services' views of their roles and missions.

To a large degree, the future roles and missions that underlie the need for major weapon programs are defined by warfare-area communities within each of the Services (Table IV-3). These communities plan for the future of warfare in their respective areas, and they draft sections of the Service POMs. Hence, they have a major influence in defining and funding major new systems.

Table IV-3. Key Military "Sponsor" Organizations

•	ARMY
-	Armor Center
-	Infantry Center
-	Aviation Center
-	Artillery Center
-	Air Defense Center
•	NAVY
-	ACNO Air Warfare
-	ACNO Surface Warfare
-	ACNO Undersea Warfare
•	MARINE CORPS
•	AIR FORCE
-	Tactical Air Command
-	Strategic Air Command
-	Military Airlift Command
-	Space Command
•	SPECIAL OPERATIONS COMMAND

The Service Headquarters integrate the sections of the POMs prepared within these Service communities. This generally involves the deliberations of panels and review boards. The POMs tend to preserve historical patterns in forces and budgets, because each successive POM is built on its predecessor. Numerous examples illustrate this point: the

relatively constant stated requirement for carrier battle groups, air wings, and divisions provides one case in point. Other examples include the relatively constant ratio of reserve to active forces, the constant ratio of annual TOAs across the Air Force's major mission panels, and the tendency to prorate reductions rather than make discrete cuts. Because the POMs are driven so heavily by historical patterns, long-range planning has had little influence on decisionmaking. For a similar reason, the formal analysis discipline is but one factor, and usually not the major one, in identifying capabilities, deficiencies, and operational needs.

Service programming and budgeting practices reflect the inherent dilemma in defense decisionmaking between organizational concerns and cost benefit analyses. On the one hand the organizational dimension of decisionmaking emphasizes the character and traditions of the major warfare communities and their powerful incentives to define their future through their proposed modernization programs. Balanced against this is the cost-effectiveness approach, which emphasizes quantitative analytic tradeoffs among the capabilities contributed by these warfare communities. A recurring theme in any discussion of the Service PPBS process by its participants is that "corporate judgment" ultimately makes the important decisions and shapes the composition of the Service program and budget. Corporate judgment is defined as the collective wisdom of a number of experienced senior officers bringing their extensive military experience to bear during the review process.

In sum, the processes for creating Service program and budget proposals reflect the Services' views of the programs needed to operate, maintain, and modernize their forces in accordance with their traditional roles and missions in support of the National Military Strategy. This process provides core programs and budgets consistent with the missions of these communities, but the Service proposals do not always reflect integrated goals, nor do they easily accommodate needed changes in direction in programs or in the mix of programs. The integration of these programs must be accomplished through the Secretary's guidance and review.

C. DPRB PROGRAM AND BUDGET REVIEWS

As noted earlier, the mechanisms that support the Secretary in reviewing the proposed programs and budgets are the program and budget reviews in the Defense Planning and Resources Board (DPRB). The focus of these reviews and decisions is provided by issue papers developed and written by committees that represent all affected

offices in OSD, the Joint Staff, and the Services. The issue papers may propose program cuts required to bring programs down to budget levels, or they may restore, increase, or otherwise modify a program. Once program review decisions are made, the Services are given budget guidance for the submission of their budgets.

The historical criticisms of this review process have focused on two different issues. First was that the process did not frame issues appropriately--in terms of the needed long-run, integrated perspective. In the conceptual framework, one would expect the POM reviews to reflect broad considerations of strategy and force integration issues. In fact, our review of POM issue papers from a recent issue cycle found that issue papers did not systematically address overall strategy but appealed to various Presidential, Congressional, and Secretarial documents and other public statements. Alternatives were couched in terms of narrow acquisition and budget options that were related in *ad hoc* ways, if at all, to the broader issues of national security (see Table IV-4). It presented them in ways that left basic long-range issues unresolved and focused instead on resolving immediate program issues; hence, issues were never fully settled.

**Table IV-4. Issues Addressed In Reviewing
Service Program Objective Memoranda**

- Relationship to strategy is often not explicit
- Alternatives usually couched in specific terms
 - Number procured
 - Costs through FYDP period
 - Termination of production lines
 - Inventory replacement based on age and numbers
- *Ad hoc* appeal to various documents
 - Defense Guidance
 - National Security Decision Directives
 - Secretary of Defense Annual Reports
 - DoD Congressional testimony
 - Old PPB decisions--PDMS and PBDS
- Special studies do not focus on strategy issues

The failure to resolve an issue allows it to be raised again and again and encourages a degree of gamesmanship. At every stage of the process, the Services will, if given discretion to do so, emphasize programs they think most important, such as tanks for the Army, aircraft carriers for the Navy, and aircraft for the Air Force. Concomitantly, they will leave out or postpone programs to which they accord lower priority. Examples could include programs that support another Service, meet CINC sustainability needs, compete

with favored weapons, or involve high technical risk. For the most critical and contentious acquisition issues, the Services and various OSD offices will sometimes suggest alternatives to the Secretary of Defense that run counter to his earlier decisions.

Moreover, last-minute decisions in the program and budget review process entail procedures that essentially force the Secretary to select from a menu of specific choices without a coherent and comprehensive structure of priorities. Indeed in many cases, to avoid addressing specific issues, last-minute budget changes adopt a "share-the-pain" approach of across the board budget cuts. Hence, because the current process fails to establish clear goals for decisionmaking and does not track the execution of programs, the Secretary must possess a clear sense of direction and maintain constant vigilance if he is to successfully lead and discipline participants in creating an integrated force.

Attempts were underway throughout the latter half of the 1980s to improve the linkage between programming and budgeting and the *Defense Planning Guidance*. For example, recent program reviews required issue papers to reference the DPG and specific mid-term objectives whenever possible. The DMR increases continuity within the process by establishing a single executive secretary for all phases of the DPRB's activities. As described in Chapter III, the DMR's proposed investment roadmap could be used to link DPRB decisionmaking with long-range goals. To do this, the Secretary needs to determine how it is to be incorporated in DPRB issue papers and deliberations.

The second criticism of DPRB reviews stemmed from their relatively short, five-year time horizon. No mechanism was provided for reconciling the long-range spending requirements for acquisition programs with likely available budgets. Of related concern were the unrealistic budget projections used as a basis for five-year planning in the later half of the 1980s. A recent OSD analysis of historical budget trends shows the discrepancies between planned and realized budgets in the 1980s.¹¹ Figure IV-1 contrasts several of the five-year budget projections made during the Carter, Reagan, and Bush Presidencies with actual budgets to demonstrate these differences. For the overall budget, the fifth year of the FYDP was overestimated by between 10 to 30 percent. The study concludes that, on average, only 80 percent of the funding projected for the fifth year of a plan was realized. The gap between planned and realized funding was most pronounced for procurement budget categories. On average, as the fifth plan year moved to realization,

¹¹ "Systematic Budget Patterns in Defense," OSD Memorandum, Mimeo, undated.

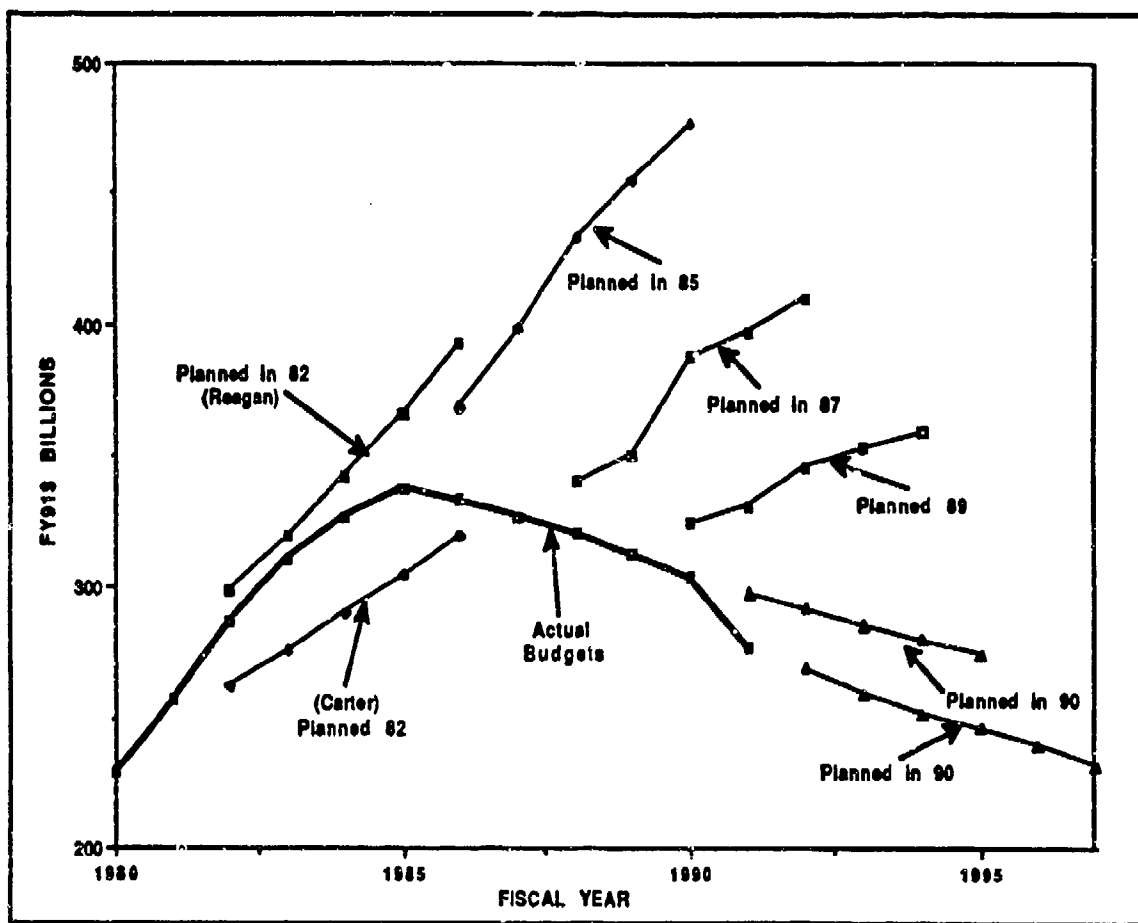


Figure IV-1. 1980s Concerns With Budget Projections

procurement and construction funding fell 50 percent short of the initial plan. Given these parameters, there was no realistic basis for designing an effective, integrated acquisition program.

This lack of visibility into future budget requirements, combined with the exaggerated projections of planned spending, create fundamental problems in managing acquisition programs. They bias decisionmaking toward starting more programs than can be executed on an economical basis. Presently, there are numerous examples of programs that are not being executed at economical rates. This has been a long-standing problem: a 1975 Defense Science Board study of acquisition streamlining concluded that undertaking more program starts than can be fully funded is a major reason why program execution is stretched out.¹² The result is an increase in cost and program delays. In effect, the lack of

¹² DSB Task Force on Acquisition Streamlining.

management controls has led the DoD to spread its modernization efforts too thin, taking on more programs than can be completed cost effectively.

One approach for dealing with this problem has been to adopt policies to stabilize individual programs. Multiyear procurement has long been used to stabilize program funding. The most prominent new mechanism is baselining, which attempts to establish program costs and schedules at the beginning of full-scale development. There are two views of baselining. One is that the baseline consists simply of a set of standards for reporting and comparison purposes. Deviations are to be expected, and they are to be explained or at least categorized and reported to higher authority. The Selected Acquisition Reports (SARs) more or less fit this description. In a second view, the baseline is regarded as a contract between the Program Manager (PM), and the rest of DoD and the Congress.

There was an attempt, beginning in 1985, to baseline about 100 major DoD acquisition programs. The continuing deviations of actual and planned budgets in 1988 and early 1989 invalidated the established baselines, and they have not yet been reestablished. Hence, they are receiving only limited attention. The current baselining system, whatever other management and reporting purposes it may serve, has not provided a binding commitment to stabilize programs within the DoD, the Executive Branch, or the Congress.

Despite the management inefficiencies caused by planning for more programs than can be executed, recent DoD executives have concluded that on balance such an approach provides an effective way to manage the department. One advantage cited is that this approach encourages the Services to compete in developing a robust set of proposed programs from which the Secretary can pick and choose to develop integrated programs. Indeed, Secretary of Defense Brown found this to be a preferred management approach:

The FYDP detail upon which we depend for mission displays is significantly different from the top line projections contained in President Carter's FY 1979 budget; the differences will be resolved each year during the programming and budget processes as the various programs compete for funds. The uncertainty about how we will make future choices among competing claims . . . requires us to plan each of such programs at a level whose sum exceeds what we plan as the total defense program.¹³

¹³ Covering letter from Secretary of Defense Harold Brown, February 23, 1978, *FY 1979 Department of Defense Budget: Display by Mission Category*, January 23, 1978, as quoted in Herschel Kanter et al., "Defense Spending" in *Setting National Priorities: The 1979 Budget*, edited by Joseph A. Pechman, (Washington, D.C.: 1978), Brookings Institution, p. 219.

More recently, then Deputy Secretary Taft supported this approach in forwarding the FYDP to the Congress: "We have developed our FY 1992-1994 programs at approximately a 2 percent higher level than the corresponding budget targets...[to allow for]...anticipated requirements that need not or can not be funded."¹⁴ It has also been argued that this approach provides needed flexibility for the Secretary in that it commits him to as little as possible in advance of the decisions he must make. A very different reason is given by Secretary Weinberger, who viewed the approach as part of a bargaining process with the Congress. He felt that large budget proposals yielded larger budgets. Supporters also contend that, although this practice may undermine the realism of planning, it still allows the Secretary to execute his strategy through his program and budget decisions.

However, on balance, the desirability of such an approach in an era of tight budgets is questionable. In the best of times, this approach creates an inherent bias in the system toward starting too many acquisition programs. The problem is obviously one of degree, as some amount of overestimate would not be harmful. Nevertheless, as shown earlier, acquisition accounts are disproportionately unrealistic when top-line budget projections are inflated. Acquisition program management would be improved--both in terms of schedule and cost--if the DoD management system focussed on a range of budget levels that are consistent with anticipated public support.

D. THE EXPANDING ROLE OF THE JOINT MILITARY ORGANIZATIONS

As a result of the Goldwater-Nichols Bill, the CJCS and Joint Staff now play a larger role in each stage of the programming and budgeting process. The Chairman is a member of the DPRB, and the Joint Staff participates in the preparation of issue papers. CINCs may also prepare issues and participate in discussions. The Joint Staff activities range from procedural issues involving how the PPBS operates, to analyses, to commenting on issue papers¹⁵ (see Table IV-5).

¹⁴ Letter from William H. Taft IV, Deputy Secretary of Defense, to the Honorable Les Aspin, Chairman, Committee on Armed Services, U.S. House of Representatives, 11 January 1989.

¹⁵ See RADM Robert Hilton, USN(Ret.) *The Evolving Role of Joint Military Institutions in Defense Resource Planning*, IDA Document D-569, February 1989, p. 18.

Table IV-5. Joint Staff Participation In Programming and Budgeting

- Policies/procedures for participation in PPBS: CINCs, CJCS, JCS, Joint Staff
- Recommendations on force structures
- Analyses of military strategies, and force structures and posture
- Analyses of integrated resources and force capability
- Trade-off analyses between effectiveness and alternative resource levels
- Military Net Assessment
- Assessments of readiness, sustainability, modernization, and force structure
- Support CJCS/VCJCS in DPRB, DAB
- Program and Budget analyses to support CJCS: As principal military advisor, spokesman for CINCs, member of DPRB, and in Congressional testimony
- Joint Strategic Planning Document and Military Strategy portion of Defense Planning Guidance
- Development of Chairman's Joint Program Assessment Memorandum (CPAM) and Joint Strategic Capabilities Plan
- Participant in DPRB Issue Paper cycle

Source: *The Role of Joint Military...*, IDA Document D-569, p. 18

One Joint Strategic Planning System (JSPS) document that should provide a major input to the programming and budgeting process is the Chairman's Program Assessment (CPA), which replaces the Joint Program Assessment Memorandum (JPAM) (Table IV-6). It reviews the Service POMs and the extent to which they follow CJCS and CINC recommendations. A significant change from prior practice is that the new Chairman's Program Assessment will reflect the Chairman's view rather than a corporate JCS view.

Table IV-6. Chairman's Program Assessment

Input	Chairman's Program Assessment Contents:	Output
<ul style="list-style-type: none"> • Service POMs • CJCS Strategy • CINC Views • Joint Staff Analysis • CJCS OPLAN Assessment • Chairman's Net Assessment 	<p>Strategy summary Adequacy/Capability Assessment of Composite POM Force Risks Major Warfighting Shortfalls Recommendations for Improvements</p> <p>Pub Date: 15 May (even year)</p>	<ul style="list-style-type: none"> • Assessment of Composite POMs to Influence DPRB POM and Budget Review (Secretary of Defense) • Alternative Program and Budget if Required (Secretary of Defense) • Information for Next Strategic Planning Cycle (Joint Staff)

Source: Joint Staff

There have been significant increases in the CINC's opportunities to shape defense budgets, and presently they have substantial potential influence at every stage in the process (see Table IV-7). This reflects actions taken by Secretary Weinberger, who continued and

accelerated Secretary Brown's efforts to increase their influence. From 1981 to 1989, a series of Deputy Secretary of Defense memoranda and DoD Directives increased the role of the CINCs. One important milestone was a memorandum, issued by Deputy Secretary of Defense Taft in November 1984, which enhanced the CINCs' role significantly and established the CINCs' Integrated Priority List.

During this period, CJCS Vessey also increased the status of the CINCs by having them personally brief the JCS on their campaign and war plans. General Vessey also established the Modern Aids to Planning Program, which provided the CINCs with the resources (billets and equipment) to analyze campaign and war plans and to use the results of such analyses to better substantiate inputs and program recommendations from the Services and OSD to the PPBS/POM process.¹⁶ Previously, beginning in the late 1970s, the CINCs already had been given the opportunity to give their views, in detail, to Congressional committees. Thus CINC views, at least on issues of readiness and sustainability, are more prominent in the formal PPB process than they have been in the past.

Table IV-7. CINC Inputs to Programming and Budgeting Processes

- Integrated Priority List
- Review and comment on Service POMs
- Review and comment on JSPS documents such as the Chairman's Program Assessment
- Issue Paper Cycle
- DPRB consideration of POMs (Program Review)*
- DPRB consideration of major budget issues (Budget Review)
- DPRB consideration of program execution (Execution Review)*
- CJCS/CINC Congressional testimony
- Participate in base case planning

*CINCs attend part of DPRB program review and execution review.

Source: IDA Document D-569, op. cit., and Joint Staff Briefing Charts, January 1990. This list does not include all CINC participation in the PPB process -- participation in planning is discussed elsewhere.

¹⁶ Herschel Kanter, Leonard Wainstein, Rachel Kaganoff, and Barry Pavel, *The CINCs and the Acquisition Process*, IDA Paper No. 2113, September 1988, pp. III-5 to III-8; RADM Robert Hilton, USN (Ret.), *The Evolving Role of Joint Military Institutions in Defense Resource Planning*, IDA Document D-569, February 1989; and *Enhancement of the CINCs' Role in the PPBS*, memorandum from William H. Taft IV for Members of the Defense Resources Board and Commanders-in-Chief of Unified and Specified Commands, DRB 84-50, November 14, 1984.

The increased involvement of the Chairman and the CINCs in programming and budgeting provides a needed integrated perspective in programming and budgeting. However, as noted earlier, participants in the process still need to maintain a constant vigil, as no budget battle is ever permanently won. Hence, the Chairman and CINCs face the dilemma of deciding how much of their time and resources to devote to programming and budgeting. As a practical matter, they have most often limited themselves to issues that are of direct concern to their command. We believe the influence of their integrated perspective in programming and budgeting could be increased and broadened if the process were more stable and organized to frame issues so that they relate to the CINCs' areas of responsibility.

E. SUMMARY

This analysis of the programming and budgeting processes has examined both the national-level processes for establishing defense budgets, and the principal DoD participants. The main conclusion is that the DPRB program and budget reviews should follow from a resource roadmap that reflects security objectives and realistic projections of budgets. Our specific findings are summarized as follows:

- The leadership for defining and justifying integrated defense programs resides with the executive branch. The Secretary should support the President in providing such leadership by developing and justifying programs that are consistent with public support for defense. Proposed procedural reforms, such as two-year budgeting or five-year budget guidance, are unlikely to be adopted, and therefore the Secretary should design the defense management system to cope with the uncertainty inherent in the budgeting process by considering a range of budgets.
- Service and defense agency POM and budget proposals reflect their views of National Military Strategy and the traditional roles and missions of their respective major warfare communities. Hence, they provide a core set of programs that must be integrated by the Secretary.
- The Secretary puts his stamp on the overall defense program through the DPRB's program and budget reviews. The Secretary's review process provides a framework for developing an integrated program, but historically the reviews framed issues and choices in a near-term perspective, and were not systematically related to an overall roadmap for integrating forces. Excessive top line budget projections made throughout the 1980s and the lack of visibility into the long-run budget implications of near-term decisions contribute to over-commitments in acquisition programs. These problems can be addressed

effectively by basing program and budget decisionmaking on a long-range roadmap such the one proposed in the DMR.

- The Goldwater-Nichols legislation has provided the tools for involving the CJCS and CINCs in important program and budget decisions. Their influence would be strengthened further by adopting a DPRB review process that follows from long-range, integrated goals.

In view of these findings, the prototype management process outlined in Chapter VI proposes three changes that would help ensure that the program and budget processes are linked with planning.

- First, the goals, milestones, and roadmaps formulated in the integrated planning process, which are to be published in the *Defense Planning Guidance*, should be kept current to reflect the Secretary's current thinking in order to provide a basis for developing the Service POMs.
- Second, program and budget reviews by the Secretary and the CJCS should incorporate the DPG, and the progress of programs should be tracked in execution reviews based on the DPG's long-range goals.
- Third, the DoD should present, explain, and defend its programs to the executive and legislative branches in terms of long-range goals that are consistent with the public's support for defense. Adoption of these actions will help to shift the focus of budget decisionmaking toward issues and choices that are framed in terms of the long-run goals established for developing and maintaining effective, integrated forces.

V. ACQUISITION PROGRAM DEFINITION

This chapter reviews the acquisition processes that generate new ideas for modernizing forces and define the specific weapon programs to implement these ideas. Following a synopsis of our findings and an overview of the defense acquisition system, we look in detail at the four organizational participants involved in these processes: the Services and defense agencies, OSD-level oversight by the Defense Acquisition Board (DAB), the joint military organizations, and the national-level political leadership. The review considers ongoing reforms such as those recently proposed in the draft DoD Directive 5000.1.¹

The conceptual framework discussed in Chapter II identified two principles for defining acquisition programs. First, the DoD must maintain a robust base of sources for the new technologies needed to maintain technological leadership. Ideally, the Services and defense agencies would engage in a healthy competition of ideas, fostered through the appropriate allocation of funding for research and development. Second, the Services' processes for incorporating these technologies in defining individual programs must be embedded within a framework for managing DoD's overall modernization activities, so that individual programs form the appropriate building blocks for an integrated force.

The studies of defense management reviewed in Chapter I raised concerns in both of these areas. One concern was that these processes were too heavily dominated by the Service warfare communities, which biased the acquisition system toward programs meeting their individual demands, rather than developing the building blocks needed for integrated forces. The second concern was that the processes for defining individual programs did not take adequate account of overall budget constraints. Consequently, there was a bias toward undertaking individual programs that were too ambitious when viewed from an overall budgetary perspective. We review these issues in view of the management

¹ *Draft Department of Defense Directive, Number 5000.1, May 25, 1990.*

changes that have been made since 1986. Our specific findings, summarized in Table V-1, are presented below.

- **Defense Agencies and Services:** The defense agencies as well as the Services play a role in exploring new program ideas. A growing share of R&D funds has been allocated to the independent defense agencies over the last twenty years, probably reflecting the concern that the Services had earlier exerted too much influence over the range of ideas explored. Today the agencies account for nearly one-quarter of RDT&E budgets, demonstrating that the Services do not monopolize the sources of ideas. The main management concerns in this area are that this base be preserved, and that the competition of ideas among these organizations be more sharply focused through strengthened strategic guidance from the Secretary.

The lead responsibility for defining new acquisition programs (i.e., for setting "requirements") also lies within the Service sponsor communities. In the formal decisionmaking framework, requirements should define the desired new mission capabilities that justify modernizing forces, and then the best weapons for providing the capabilities are defined from an integrated force perspective. In practice, a proposed "mission need" is typically accompanied by a specific program design proposal, which defines a role for the sponsoring community. The concern with this approach is that in some cases it may excessively narrow the range of alternatives considered. We conclude that such an approach is inevitable, because innovation stems from technology opportunities as well as abstract needs. However, this is not a problem so long as the sponsor's specific hardware proposals are not automatically accepted in higher level reviews. The Secretary's oversight process must ensure that an effective competition occurs among alternative ideas and sponsors for modernization.

Another area of concern relates to need to mesh the Service studies and analyses justifying program requirements with the Secretary's overall modernization objectives. These analyses often become a part of the competitive advocacy process, reflecting differing points of view on costs, missions, threats, and budgets. Ideally, these program-level analyses should contribute to linking program decisions with the Secretary's overall modernization goals by incorporating the Secretary's scenarios, goals, and roadmaps.

Table V-1. Summary of Findings on Acquisition Program Definition

Organizations	Role in Conceptual Framework	Historical Concerns	Recent Reforms	Assessment
National-Level (President, EOP, Congress)	<ul style="list-style-type: none"> President and Congress provide specific guidance on programs 	<ul style="list-style-type: none"> Micromanagement 	None	<ul style="list-style-type: none"> High-level involvement has supported many new technological developments High-level involvement should be disciplined within a broad strategic framework
DoD-Wide (Secretary of Defense, USD(A), DAB)	<ul style="list-style-type: none"> Confirms programs fit within integrated force goals <ul style="list-style-type: none"> affordability broad tradeoffs Ensures a competition of ideas - manages the competitive advocacy process 	<ul style="list-style-type: none"> DAB lacks integrated context for assessing affordability and tradeoffs Process allows options to be foreclosed too early 	<ul style="list-style-type: none"> Draft 5000.1 Directive Revised DAB Milestone 0 procedures preclude foreclosure of options Affordability to be addressed in 12-year roadmap USD(A) given milestone authority to discipline process DMR recommends that USD(A) be given authority to commission concept studies 	<ul style="list-style-type: none"> DAB procedures should <ul style="list-style-type: none"> Manage the competition of ideas in Milestones 0 and I Link individual programs with strategy in Milestone II Confirm the validity of program data at Milestone II
Joint Military (JROC)	<ul style="list-style-type: none"> Help set DoD modernization goals Advise DAB on program fit within integrated force goals Provide channel for CINC input on programs 	<ul style="list-style-type: none"> Joint military a weak proponent for integrating programs 	<ul style="list-style-type: none"> DMR strengthens joint voice in defining programs through increased JROC role VCJCS is an active participant in DAB CINCs are more involved in decisionmaking 	<ul style="list-style-type: none"> JROC should help plan for modernization as well as review weapons individually
Services and defense agencies	<ul style="list-style-type: none"> Robust independent sources for new ideas are maintained Service requirements processes define programs consistent with integrated force goals, and projected budgets 	<ul style="list-style-type: none"> The Services are strong proponents for next-generation weapons, but unenthusiastic for others Processes for generating Service requirements <ul style="list-style-type: none"> narrow the range of tradeoffs considered do not reflect overall budget constraints 	None	<ul style="list-style-type: none"> An extensive organizational base exists for technology development including defense agencies as well as Services Major Service warfare communities still emphasize core programs Warfare communities still need guidance to define programs that are affordable and consistent with integrated force goals

- **The Defense Acquisition Board:** The DAB's milestone reviews provide the needed oversight mechanism for ensuring that major acquisition programs are (a) defined, based on a systematic examination of alternatives, and (b) provide the appropriate building blocks of integrated forces. The main historical concern with DAB (formally the DSARC) oversight was that it was not well structured to accomplish these objectives. One reason was that the DAB examined and validated programs one at a time, which tended to focus the consideration of alternatives on a sponsoring community's specific proposals. This problem was compounded by the practice of setting the main program decision point at the initial DAB review (Milestone 0), because this quickly focussed the process on program details rather than on defining an appropriate range of options. Another concern was that the DAB (like the DPRB) did not attempt to reconcile the long-range spending implications of individual programs with an overall projection of the budget requirements for planned modernization programs.

These concerns reflect an inherent tension in managing the overall portfolio of modernization programs: How can the Secretary ensure that an appropriate range of alternative acquisition programs is created and explored, while at the same time ensuring that the programs in the acquisition "pipeline" are adequately constrained to remain supportable within projected resources? The solution proposed in the Packard Commission, and discussed in Chapter VI, is to move the major decision point for programs to later milestones, allowing a range of alternative programs to compete in the early milestones and being much more selective at Milestone II, where major resource commitments begin.

The *Defense Management Report* offered a number of important recommendations to address these concerns. The new DoD Directive 5000.1 would require the development of 12-year investment roadmaps and would require that the DAB use the roadmaps in making program-level affordability assessments. The new Directive also would move the major program decision point from Milestone 0 to Milestone I, and give the Under Secretary for Acquisition the authority needed to manage the competition of ideas through the concept development phase of a major program. It is our conclusion that steps such as these to improve the milestone review process are among the most important remaining steps for linking acquisition with strategy. Chapter VI proposes several practices that should be adopted within the DMR's proposed framework, and suggests some additional steps to enhance the competition of ideas in the early milestone phases.

- **Joint Military Organizations:** The joint military organizations have a substantially strengthened voice in reviewing acquisition programs. The Joint Requirements Oversight Council, chaired by the Vice Chairman of the JCS, has the authority and responsibility to review the Mission Needs Statements for a wide range of programs. The VCJCS as Vice Chairman of the DAB provides a linkage between these two organizations. Their influence could be strengthened further if, in addition to reviewing specific program proposals, they participated in the development of the Secretary's modernization goals in the planning process. Hence the prototype process outlined in Chapter VI establishes a role for the JROC in setting overall modernization objectives.

- **National Political Leadership:** At the national level, the President and the Congress use the budgetary process to influence high-profile weapon programs by exercising control on a program-by-program basis. Although such involvement is a form of micromanagement, it should be recognized that some very significant non-traditional weapons programs have been nurtured in this way. At the same time, participation of the political leadership needs to be rationalized and disciplined to incorporate resource limitations. The Secretary therefore should provide a coherent framework for Presidential and Congressional review, by presenting them with long-range modernization objectives and resource roadmaps.

In summary, the Secretary's task of linking acquisition with strategy requires him to integrate the activities of the various idea generation and acquisition program definition processes within the Services and defense agencies. The DMR's proposed planning scenarios, investment roadmap, and milestone procedures provide a long-needed overall management framework for accomplishing this. The prototype management system described in Chapter VI outlines five needed changes, which include implementation of the DMR's proposals. First, strategic guidance for R&D activities should be provided by establishing technology development goals in the Defense Planning Guidance. Second, the DPG's force goals, acquisition roadmaps, and scenarios should be incorporated in program-level analyses for defining individual program requirements. Third, DAB reviews should provide an overarching framework for managing the DoD's modernization activities. Milestone 0 and I reviews should manage the competition of ideas and Milestone II should select programs for full scale development that fit within the overall modernization roadmap. Fourth, the JROC should participate in developing the Secretary's modernization goals, and should use these in their review of individual acquisition

programs. Fifth, DoD should present and defend acquisition programs to the President and Congress within a long-range, integrated framework for modernization in order to provide a more coherent framework for their review.

A. OVERVIEW OF THE DEFENSE ACQUISITION SYSTEM

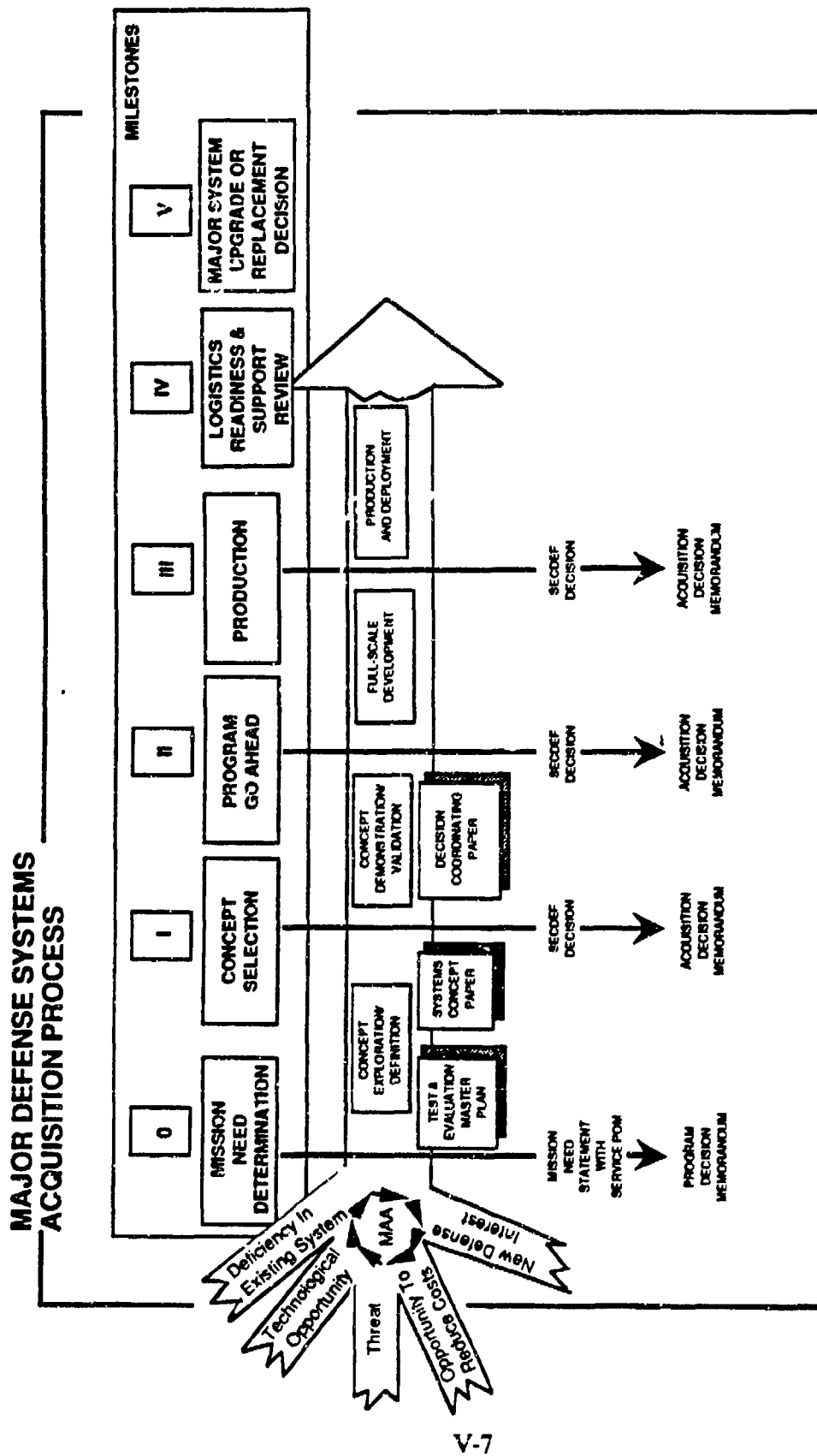
Modernization as it relates to the major weapon programs involves three basic alternatives: upgrade, replacement, and new approaches to provide a needed capability (often referred to as non-traditional approaches). The preponderance of weapon systems development is evolutionary; consequently, most modernization activities involve replacing existing inventory with next-generation systems. An important fraction, however, are non-traditional approaches that provide significant advances in military capabilities.

The acquisition system, through which these programs are implemented, includes all of the processes by which weapon programs are conceived, defined, designed, evaluated, prototyped, tested, produced, incorporated into the force structure, and upgraded. According to the defining DoD Directive, the Department of Defense Acquisition System is²

[A] single uniform system whereby all equipment, facilities, and services are planned, designed, developed, acquired, maintained, and disposed of within the Department of Defense. The system entails establishing policies and practices that govern acquisitions, determining and prioritizing resource requirements, directing and controlling the process, contracting, and reporting to Congress.

The development process has been subdivided into several phases, as illustrated in Figure V-1. The early stages are where programs are linked with national military strategy; therefore, they are the focus of this review. The stage of a program prior to Milestone 0 (when an official start is undertaken) is where most of the ideas for defining weapons are generated through a diffuse process, matching the determination of needs and the exploration of technology. This process of exploring options should in principle continue through Milestone II, when full-scale development of the proposed system begins. Hence, the linkage of programs with strategy must begin prior to Milestone 0 and should continue through the early stages of a program.

² *Major and Non-Major Defense Acquisition Programs*, Department of Defense Directive Number 5000.1, September 1, 1982, pp. 1-2.



Source: *The Joint Staff Officer's Guide*, 1988 Armed Force Staff College, National Defense University, U.S. Government Printing Office, Washington, DC, July 1, 1988, p. 115.

Figure V-1. Major Defense Systems Acquisition Process

Organizational involvement and oversight vary substantially over the life of an acquisition program. (A typical pattern is summarized in Table V-2.) The early program definition phases are for the most part initiated within an individual sponsoring Service or defense agency. Nevertheless, programs are not conceived in a vacuum. There is much informal communication among the Services (they exchange requirements documents, for example), among the Commanders-In-Chief (CINCs) of the unified and specified commands and their component commands, between the Services and the Joint Staff, and between the Services and OSD.

Table V-2. Participation During Acquisition Phases

Funding Category	Milestone	Academic	Service Laboratories	Industry	Service Materiel Acquisition Command	User	Service Platforms and Mission Sponsor
Research and Development	before 0	High	Low	Low	-n.a.	-n.a.	n.a.
Basic Research	about 0	Low	High	High	Low	Low	Low
Exploratory Development	1	-n.a.*	Medium	High	Medium	Medium	Medium
Technology Development	2	-n.a.	Med-High	High	High	Medium	Medium
Engineering Development		-n.a.	Med-High	High	High	Medium	Medium
Advanced Development		Low	Low-Med	High*	Medium	Low	Medium-High
Management & Analysis and OT&E							
Service Introduction	3	-n.a.	Low	High	High	High	High
Procurement		-n.a.	-n.a.	High	High	High	High
Product Improvement (block upgrades, P3I)	4	-n.a.	High	High	High	High	High

* n.a. = not applicable

Formal scrutiny above the level of the sponsoring Service or agency begins when an official new program start is established and the program enters Milestone 0. Typically, by the time of this first formal high-level review, the Service or agency advocating the program has a good idea of what it wants because it has been working on the problem for some time. The process for linking acquisition with strategy must therefore be capable of influencing decisionmaking in the early formative stage of programs, prior to Milestone 0 when internal Service requirements decisions are being made. It must also be capable of ensuring that the process of exploring options is not prematurely truncated at Milestone 0.

The following Sections examine the roles of the major organizational participants, and the main issues that have been raised regarding the acquisition program decisionmaking processes.

B. THE SOURCES OF WEAPON PROGRAM IDEAS WITHIN THE SERVICES AND DEFENSE AGENCIES

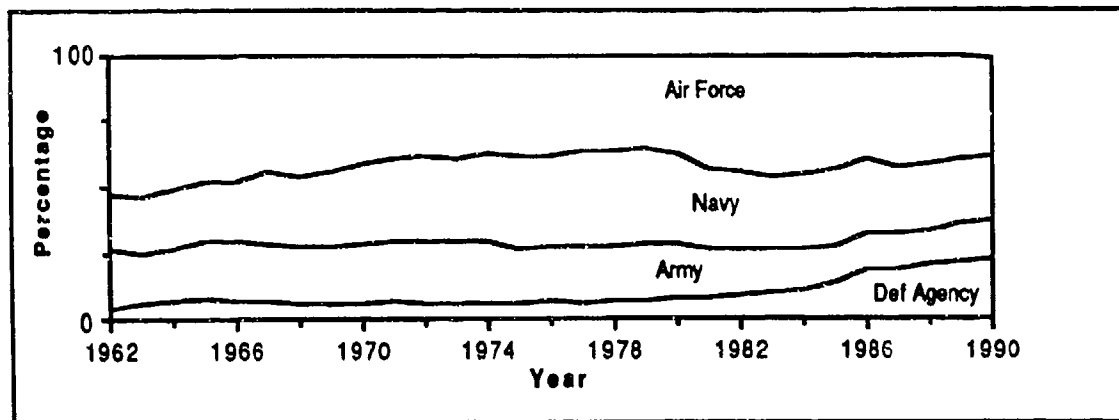
Two interrelated functions support the definition of weapon programs at the front end of the acquisition process. The first includes the research and development activities for generating new technologies. The second includes the Service "requirements" processes involved in defining the new programs that implement these technologies. These functions are described and discussed below.

1. The Sources of New Weapon Technologies

The wellsprings of the force modernization programs are the technology base programs which generate new technologies and applications. Approximately 2 percent of the DoD Total Obligation Authority (TOA) is channeled into nurturing the "tech base." These funds go to DoD laboratories for in-house efforts and/or specific contract efforts by defense contractors. The objectives are to exploit basic technical knowledge and to avoid technological surprise. (The technology base of the nation is embodied in both the commercial and defense sectors, but for the purpose of this exposition we will concentrate on the defense sector.) The main concern with these processes has been the allegation that they are dominated by the Service development communities and therefore do not consider a full range of technology options.

The Service warfare and development communities traditionally have, in fact, strongly influenced the direction of DoD-funded research and development. The vast majority of tech base spending is on projects responding to "Technology Needs," which are formal documents prepared by the Services' acquisition commands. Many of these projects go on for years, with varying degrees of success. Exploratory development funding is also largely directed by the Service acquisition commands and is even more directly focused on applications, such as propulsion or armaments.

However, DoD has increasingly expanded the base beyond these Service activities by developing independent defense agencies for research and development. In 1962, 4 percent of R&D was provided to these agencies. This figure increased to 8 percent in 1981, and 23 percent is planned by 1990 (Figure V-2). Although much of the increase is



Source: OSD Comptroller Printouts

**Figure V-2. Department of Defense RDT&E Spending by Component, 1962-1990
(Percentage)**

due to the Strategic Defense Initiative Office (SDIO) and Defense Advanced Research Projects Agency (DARPA) budgets, some of the funding has gone to other organizations. In addition to the figures listed in Table V-3, NASA and the Department of Energy provide other weapons-related research that is beyond the control of the Services. Hence, while the Services continue to predominate in shaping the development of new technologies for modernization, a number of additional sources of ideas presently exist. This organizational diversity has helped to generate a healthy competition of ideas, and should continue through the continued funding of these diverse sources for program ideas.

Management of the labs and research centers has been a long-standing subject of considerable study and debate. There appears to be widespread agreement on the need to consolidate and reorganize the DoD laboratory system.³ A second issue that has been raised is the need to improve the strategic direction for these activities.⁴ A potential pitfall of these efforts is that too much consolidation could excessively restrict the base of ideas

³ The laboratory consolidation study underway within OSD is considering options that would increase OSDs control over Service laboratories. The options that have been discussed include increasing OSD control over funding, and giving OSD direct management control over some laboratories.

⁴ A 1988 task force consisting of senior officials from the OSD, Services, defense agencies and contractors developed comprehensive recommendations for science and technology strategic planning. These recommendations would have set up mechanisms by which the Secretary could provide strategic guidance to the Services and defense agencies, and then followed up that guidance to ensure that the guidance was carried out. Subsequently, the Office of Research and Advanced Technology has coordinated the development of a "DoD Science and Technology Program Investment Strategy." However, the other recommendations have not been adopted. See Frederick Ridell, et. al., eds., "Report of the Task Force for Improved Coordination of the DoD Science and Technology Program," IDA Report R-345, August, 1988.

for new programs. Hence, in reviewing the current base of organizations, careful consideration should be given to retaining the needed competition of ideas. At the same time, it is important that the Secretary's planning process provide overall direction for research and development.

Table V-3. Defense Agency RDT&E, 1980-1990
(TOA In Billions of Dollars)

Agency	1980		1985		1990	
	\$	% of DoD	\$	% of DoD	\$	% of DoD
DARPA	0.458	3.4	0.696	2.3	1.227	3.3
OSD	0.014	0.1	0.124	0.4	1.033	2.8
SDIO	--	--	1.400	4.6	3.571	9.7
OTHER	0.610	4.5	1.962	6.4	2.315	6.3
TOTAL DEFENSE AGENCY	1.082	8.0	4.182	13.7	8.146	22.1
TOTAL DoD RDT&E	13.492	100.0	30.570	100.0	36.718	100.0

Source: OASD Comptroller Printout, 1989, and *RDT&E Program, Department of Defense Budget for Fiscal Year 1991*, Office of the Comptroller of the Department of Defense, Washington, D.C., January 29, 1990.

2. Processes for Defining Acquisition Programs

Acquisition programs are defined through what are commonly known as the "requirements" processes. There have been two long-standing concerns with these processes expressed in studies of defense management. The first has been that requirements have commonly been defined in terms of hardware performance criteria rather than in terms of needed military mission capabilities. The second is that these processes are not embedded within an overall framework for managing the department's modernization goals and activities. These two issues are examined in this Section.

a. Requirements Definition

The Services' major warfare communities take the lead role in defining new programs. Hence, the origins of most requirements can be traced back to the major weapon-sponsoring communities within each of the Services. The defense industries play a large role in supporting these activities and in promoting their own specific solutions.

In formal descriptions of defense management, the requirements process is a deductive process in which mission capability requirements are defined and programs are developed to meet these needs. However, only the Army has established a formal systematic process that follows this model. Embodied in the Combat Based Requirements System (CBRS), this process constitutes the core activity of the Training and Doctrine Command (TRADOC). CBRS "is a decisionmaking methodology that helps TRADOC execute its mission as the architect of the future." Procedurally and organizationally, the CBRS attempts to ensure that a full range of cost-effective options and alternative solutions will be investigated systematically. Thus the CBRS is, in principle, the type of requirements system that should be employed.

In reality, weapon ideas are motivated by a number of considerations and are derived from a variety of sources. New technological developments, technical intelligence of Soviet or other foreign developments, operational intelligence, operational experience, technological obsolescence, or new military concepts and uses are all factors in defining weapon systems (See Table V-4). The preponderance of weapon systems development undertaken within the Services is evolutionary. For example, the M1 tank followed the M60, the Bradley Infantry Fighting Vehicle followed the Armored Personnel Carrier, the A-12 aircraft will follow the A-6, and the SSN-21 submarine will follow the SSN-688 class. The timing of a replacement is driven by such factors as the rate of qualitative advance in the Soviet threat, technology, the available funds, and the rate of obsolescence of existing equipment.

Occasionally, modernization will be manifested in a non-traditional approach to providing a needed capability. In World War II, examples included radar, sonar, atomic bombs, the proximity fuze, and jet fighters. More recent developments include nuclear-powered ships, ballistic missiles, satellites, and precision-guided munitions. No less significant are the evolutionary developments in underwater acoustics, materials science, explosives and energetics, and computer power.

There is a synergism between technology and operational requirements that obscures the sequence of their emergence. The impetus for new programs may come from the development of a new technological opportunity or from the demands for enhanced operational capabilities. Each of the Services has an extensive list of operational requirements that guide development activities. These requirements are general, long standing, not necessarily formally documented, and probably unattainable in terms of

Table V-4. Stimuli for New and Improved Systems

TYPE OF STIMULUS	IMPROVEMENTS
Technical intelligence	Active armor
Operational intelligence	Alpha submarine speed Israeli surveillance drones
Operational experience	Unreliability of shipboard ESM equipment Inaccuracy of gunfire Need for all-terrain capability
Technical obsolescence	Advances in computer power Reduced effectiveness due to Soviet countermeasures
New Military concepts and uses	Counter-terrorist equipment SDI Radar map-matching
Technology Push	Nuclear weapons Nuclear-powered ships Proximity fuse Maritime sound surveillance systems

today's technology. For example, when infrared technology was in its infancy, the tactical air forces had a generic requirement to operate at night over the tactical battlefield with an effectiveness approaching that of daytime. This unfulfilled operational requirement stimulated a great deal of technology development, but it was not until technology that allowed the air forces to achieve this requirement was well in hand that a formal, documented, operational requirement was crafted. The result was the initiation of the LANTIRN program, which is now being implemented on the F-16 and F-15E aircraft.

Culture, roles and missions, and "corporate judgment" are also major factors in defining weapon programs. Indeed, one criticism of the process has been that the warfare communities focus excessively on programs that perpetuate their current roles and missions. Indeed, as the final section of this chapter shows, many of the most important new technology developments fell outside existing Service missions and, hence, were developed elsewhere.

We conclude that, in practice, requirements are not derived through a logical deductive process as indicated in formal descriptions of the acquisition system. They originate from many sources, including strategy, technological opportunities, and Service culture. By the time a specific solution to an operational requirement begins to take shape,

its true origin is often impossible to identify or to separate from the proposed hardware solution. This relationship is inevitable, and the acquisition system should be designed to accommodate it. Early milestones should acknowledge the sponsor's proposed hardware solution associated with a proposed mission need, but at the same time, the DAB should solicit ideas to compete with this proposal. The management of this competition should be the primary role of the DAB in the early phases of a program.

b. The Role of Analysis

Substantial analyses are undertaken in support of both military and civilian organizations in defining programs. These analyses range from broad cost-effectiveness to detailed technical studies. The Service and industry analytical community also play significant roles in the preparation of the Mission Needs Statement prior to Milestone 0, in the Concept Evaluation Phase at Milestone I, and in Operational Test and Evaluation. The analytical community also is called upon for Mission Area Analyses and trade-off analyses that support development of Program Objective Memoranda.

A diverse base of organizations participates in such studies. In addition to analytical groups at Service R&D centers and in private industry, the DoD analytic community includes IDA, RAND, the Center for Naval Analyses, the Army's Concepts Analysis Agency and other federally funded research and development centers (FFRDCs). The effect of such analysis in evaluating new ideas can at times be pinpointed. Examples of policies that probably were affected by analysis include Air Force basing policy, the Navy's proposal for building new ships to be forward deployed and pre-loaded with Army equipment, and the B-70 and Skybolt. Some recent examples of major analyses include B-1 and B-2 bomber penetration studies, a major study of the Army's LHX, and a recent study of the proposed V-22 tilt-rotor aircraft. Although the effects of studies cannot be pinpointed, they provide important systematic assessments of the costs and utility of proposed weapons.

In the past 20 years, the methods of systems analyses and weapon system evaluation have been adopted by most of the groups that generate and define new programs. The systematic framework for analysis and debate provided by such an approach has undoubtedly contributed to strengthening the linkage of acquisition program decisionmaking with overall strategy. In practice, the limitation of such analyses is that in many instances they are not necessarily commissioned to be performed within a broad mission or force structure context. Also, analytic assumptions, scenarios, military

strategy, doctrine, and tactics may vary across analyses. Thus, studies and their assumptions may themselves become issues in the advocacy process. The utility of analyses could be strengthened through the establishment of a better coordinated framework that would relate individual program-level analyses to the overall modernization objectives established by the Secretary.⁵

Of particular concern is the need to ensure that the program options considered are consistent with realistic projections of available funding for the mission area. If each warfare community, acting in isolation, focuses on weapon designs that it believes gives the maximum performance, there is no guarantee that the collective set of these programs can be supported within available budgets. Hence, the Secretary's investment roadmap must provide rough resource guidance for the warfare communities to use in defining their weapon programs.

These findings on the idea generation processes and the requirements processes have some strong implications for defense management practices. Foremost is the need to foster competition within the acquisition system, both in maintaining an organizational base for generating ideas as well as in maintaining a competition among competing ideas in defining individual programs. Second is the need to embed individual program-level analyses within an overall framework for modernization.

C. OVERSIGHT AND THE DEFENSE ACQUISITION BOARD

These needed practices can be implemented through the Defense Acquisition Board's reviews of major programs. Milestone reviews are keyed to broad phases of a program, as illustrated in Table V-5. Each decision milestone focuses on a wide range of issues, including both the work accomplished in the phase prior to the milestone and plans for the phase to follow the milestone. Traditionally, a milestone generally has not been a

⁵ In its 1975 report, The Acquisition Advisory Group recommended to the Secretary of Defense that "a continuing series of mission area analyses be established within DoD to assess and evaluate current and projected capabilities and deficiencies in relation to the threat and availability of resources." The group found that "The proper utilization of mission area analyses and mission concept studies is first: to stimulate consideration of systems which might help solve problems, and second: as solid supporting bases and source documents for the threat, the consideration of alternative solutions to the problem and to establish the framework within which system performance and cost characteristics and trade offs may be validated." "The Director of WSEG [Weapon Systems Evaluation Group] would be responsible for review of mission area analyses...submitted by the military departments, and for ensuring that the sum of these programs represented a coordinated DoD-wide program." See *Report to the Secretary of Defense by the Acquisition Advisory Group*, September 30, 1975, p 37-38.

go, no-go decision point; instead, if aspects of the documentation or the program itself are unsatisfactory, the program manager is directed to fix them.

1. Milestone 0 and Concept Exploration

Milestone 0 is the official beginning of a new program start. It initiates the Concept Exploration Phase, which consists of analytical studies, development and experimentation with critical subsystems, tradeoff analyses, and cost and affordability studies. These are oriented toward producing various system design concepts (as distinguished from point designs) from which a preferred design concept will be chosen at Milestone I for demonstration/validation during Advanced Development. One purpose of this Milestone is to ensure that the sponsor has developed an adequate plan for exploring options during this Concept Exploration Phase, and that the options being explored are within overall guidance.

Ideally, programs at the Milestone 0 point should not be programs at all, but rather broad expressions of military need that might be satisfied by a range of alternative solutions.⁶ However, as noted in the preceding section, proponents of a new start are often driven toward a specific preferred hardware solution for providing military capabilities. This tendency is reinforced by the milestone documentation requirements. The required documentation for Milestone 0, namely the Mission Need Statement (MNS) for a major acquisition program, drives proponents toward greater specificity. In addition to describing the mission area, the projected threat, the shortfalls of existing systems, and known alternative concepts, MNSs are required to discuss funding implications over the FYDP period, technology baselines, prototyping, and acquisition strategies. Such specific documentation requirements virtually preclude approaching Milestone 0 with a completely open mind.

⁶ The Long Range Conventional Standoff Weapon (LRCSW) is a current example of the defense acquisition process working in practice as the theory says it should work. It is in the Concept Exploration Phase. The requirements of LRCSW are broadly stated: long range (on the order of INF missile ranges), conventional warheads, high survivability en route to the target, compatibility with various Navy and Air Force launchers (submarine torpedo tubes, shipboard vertical launchers, and B-52s), flexible mission planning, and near-zero CEP autonomous guidance. Beyond those broad requirements there are no specific or preferred solutions.

Table V-5. A Notional Program and Milestone Review Schedule

Milestone	Review Issues	Baseline Agreement	Subsequent Phase		
			Tasks	Time Frame (yr)	Percent (%) of Overall Program Cost
0 Program Initiation	Is there a mission need? Is there a good plan to proceed?	No	Concept Exploration: Systems analyses studies of alternatives	1-2	< 1
I Concept Selection	What concepts should be explored? Is there a good plan to proceed?	No	Demonstrate and Validation: Prototyping and testing of critical technologies and components	2-5	1
II Program Go Ahead	Is the program cost effective? Have appropriate options been explored? Have cost performance tradeoffs been performed? Is acquisition strategy adequate?	Yes	Full-Scale Development: Operational testing; transfer from development to production	3-4	10
III Production Ratification	Is program adequately defined to proceed to production? Are appropriate strategies and policies being followed? Are test results adequate and supportive?	Yes	Full-Rate Production: Production for fielding; continued testing Deployment: Support and operation	10+	90

This practice has limited the range of alternatives considered subsequent to Milestone 0. To counter this practice, the Under Secretary and the Vice Chairman of the JCS have begun to enforce a policy of limiting the scope of their approval to the mission need in recent milestone reviews. This approach is an important step forward in ensuring that the DAB review process fosters the competition of ideas for meeting mission needs.

Accompanying this approach has been an attempt to set higher thresholds for new program starts. Even though the initial funding level for a new program at Milestone 0 is relatively small, approval at this point is a very large step because it establishes a niche in DoD programs and budgets, and a toehold in the acquisition pipeline. Raising the hurdle at Milestone 0 is an attempt to nip programs in the bud, before they build a political constituency, in order to manage long-range acquisition spending requirements. This

approach can control overall resource commitments, but it does so at the price of restricting the programs that will be explored in the early milestones to those that are expected to continue through to production. This is why the Packard Commission recommended that the major program decision point be shifted to the Milestone II decision; to allow more programs to be maintained in the early milestones, without necessarily committing to the major resource requirements that begin following Milestone II.

If the Concept Exploration Phase is to serve its intended purpose, it needs to be funded adequately. Heretofore, that objective has been something of a problem. The lead time for inserting a budget line item to support an embryonic new start at Milestone 0 is at least 18 months, and that presupposes that enough is known about the new start to justify its entry in the PPBS process. Many new starts simply do not have the luxury of that much lead time, nor should they. Accordingly, the sponsoring Services resort to all sorts of stratagems to fund the paper studies for this phase. This problem suggests that flexible budgeting mechanisms are needed to allow timely funding.

2. Milestone I and Demonstration/Validation

The Milestone I review emphasizes procedures for the ensuing program phase, such as prototyping of high risk technologies and testing. During this phase, many technical issues are explored, and, presumably, the process of exploring cost-performance tradeoffs can begin. At Milestone I the proposed program, now considerably more refined and detailed, must be revalidated against the threat and the shortfalls of existing systems. Alternative program tradeoffs, performance/cost and schedule tradeoffs, including the need for a new development program versus buying or adapting existing U.S. or Allied military or commercial systems, must be demonstrated at this milestone.

The discussion of these issues is documented in a System Concept Paper (SCP) which includes a description of the selected alternative to include a defined operational concept, technology and producibility risks, prototyping considerations, commonality with existing systems, survivability, program cost versus military worth (i.e., affordability), readiness, sustainability, manpower, personnel, training, and a host of other matters. Although nothing in DoD documentation specifically requires that linkage with military strategy be addressed, these documents are the principal vehicles through which the Services formally link their programs with national military strategy.

Generally the question of affordability during milestone reviews has focused on the adequacy of funding over the next 5-year planning period, rather than the long-term

financial commitment implicit in each milestone decision. A noteworthy exception was when the DAB went beyond its normal practice in reviewing the cost of the Army's proposed LHX program in 1988 and concluded it could not be afforded given reasonable expectations about budgets and the Army's other modernization program commitments. This example illustrates the value of a framework that would allow the DAB to take a longer-range, integrated perspective in assessing the affordability of programs. In order to evaluate the affordability of an individual program, the DAB must have an overall roadmap showing how the program fits within the Secretary's overall modernization objectives as well as within projected available budgets.

3. Subsequent Milestones

Milestone II precedes full-scale development of the proposed system or of competing systems. This phase continues the process of exploring options and developing data for cost/performance tradeoffs. As noted earlier, the Packard Commission believed that Milestone II should be the most important focus of decisionmakers because it is after this point that significant obligation of funds begins. In the Commission's view, many alternative programs should be allowed to go through the early stages. Presently, as noted, the system is placing much more emphasis on screening programs in the early Milestones.

Milestone III is the decision to begin full-rate production. In principle, this milestone represents a major decision point because the majority of program spending occurs afterwards. However, by the time a program reaches this point, there generally is no turning back. Thus, in practice, the major focus of this milestone is on a range of acquisition strategy and policy issues, rather than on the core issue of whether the resource commitment should be made to begin production.

Subsequent milestones deal with issues of supporting equipment in the field, and with decisions on program upgrades.

4. The DMR and the Revised 5000.1 Directive

The newly proposed revisions to the 5000.1 Directive for the acquisition system introduce many new features in accordance with the DMR's mandate. Key among these new features are:

- The major hurdle for a new program start has been shifted from Milestone 0 to Milestone I;

- The Under Secretary is authorized to commission competitive concept development studies;
- A long-range acquisition roadmap is to be created; and
- The DAB is to assess program affordability in the context of the roadmap.

These proposed changes in the DMR are broadly on target in making the changes needed to strengthen the linkage between acquisition decisionmaking and strategy. The Secretary's DAB review process should be used to manage the competition of ideas at Milestones 0 and I, and to ensure that individual program decisionmaking is linked with overall modernization goals in subsequent milestones. The changes proposed in the DMR move toward this approach. The recommendation that the DAB have some control over concept exploration studies is a good one. Similar steps should be taken to strengthen competition in the demonstration and validation stage as well. The recommendation that DAB reviews incorporate a resource roadmap is an essential step for strengthening the linkage of program decisionmaking with strategy, and its implementation should be pushed aggressively. In addition, the Secretary can reconcile the need to explore many program alternatives with the need to control overall acquisition expenditures by shifting the major decision point for programs to Milestone II.

D. THE ROLE OF JOINT MILITARY ORGANIZATIONS

The joint role in acquisition has long been exercised through several informal channels, as noted in Section B. A number of recent changes substantially increases the formal role of the Chairman, JCS in program decisionmaking, as well. One significant action was the creation of the Joint Requirement Oversight Council (JROC). A second is the creation of the Vice Chairman of the JCS, who provides a JCS focal point for acquisition issues.

Three Packard Commission reports referred to the VCJCS and his role in the requirements/acquisition process (Table V-6). Packard referred to the Joint Requirements Management Board (JRMB), which would be co-chaired by the Under Secretary of Defense for Acquisition (USD(A)) and the VCJCS, as the primary vehicle for addressing requirements/acquisition concerns. The JRMB, as conceived by Packard, became two separate bodies, the DAB and the JROC. The JROC is the main instrument used by the Vice Chairman, Joint Chiefs of Staff for inserting joint military requirements into the acquisition system.

Table V-6. Packard Commission Views of Vice Chairman, JCS, and JRMB

Packard 2/28/86: Vice Chairman, JCS (VCJCS)

- Special responsibility for representing interests of CINCs
- Reviewing weapons requirements
- Co-chairing Joint Requirements Management Board (JRMB)
- Other duties as Chairman may prescribe

Packard 4/86: JRMB

- JRMB Co-chaired by USD(A) and VCJCS
- JRMB play active and important role in all joint programs and in all major Service programs
- JRMB define weapon requirements for development and provide early trade-off between cost and performance

Packard 6/86: VCJCS

- VCJCS to assist Chairman in performing new duties

When the JROC was first organized, several issues were raised concerning the requirements process (Table V-6). First, assessing military requirements for defense acquisition programs was a new function for the CJCS. The Chairman designated his newly appointed Vice Chairman as *the* principal player in this process. To manage his increased responsibilities as Chairman of the JROC, the Vice Chairman tasked the Joint Staff to develop a system to examine all programs in general detail and publish a list of those being examined. Programs and systems with joint application were to be examined in much greater detail. The role of the JROC was expected to grow as staff capabilities grew. JROC was to explore programs to ensure that Services were on the right track and that solutions to problems were proposed.

A second issue was the influence of the joint system--CJCS/VCJCS, Joint Staff, and CINCs -- in the JROC process -- in comparison with the role of the Services. The JROC has already addressed single-Service issues, such as Follow-on-to-Lance (FOTL) and Tactical Air-to-Surface Missile (TASM), and plans to expand its focus in this area.

A third issue was the consideration of resources and affordability. The previous Vice Chairman believed priorities should be assigned through the programming and budgeting process. In this way, the competing requirements of CINCs, Services, defense agencies, the intelligence community, and OSD are resolved. Hence, the JROC should not address the issues of affordability as related to a particular budget. The JROC and DAB would contribute advise on priorities and requirements, and make recommendations on particular acquisition programs. This approach gives rise to the concern that reviewing programs one or a few at a time, without having to consider resource constraints, does not

provide meaningful advise on program priorities. Hence, the JROC's contribution could be strengthened substantially if it participated in developing overall modernization objectives within the planning process.

A fourth issue was the pace of change in enhancing the joint role in the acquisition process. The former CJCS, Admiral Crowe, estimated that it would take 3 to 5 years to implement the significant organizational changes inherent in the Goldwater-Nichols Act and NSDD 219. Several significant steps have been taken as the CINCs have become more involved with the determination of military requirements. Additionally, some single-Service programs were included on early JROC agendas, and the JROC met with the DAB to review all new starts in the FY1990-1994 Service programs.

Table V-7. JROC Charter

- Provides early program oversight/monitoring at front end of acquisition process; emphasis on requirements of CINCs and Services
- Reviews all major system new starts
- Reviews military requirements for potential joint application
- Seeks opportunities for joint development and acquisition by
 - Reviewing recommendations for joint programs from OSD, Services, CINCs, Defense Agencies, and Joint Staff
 - Chartering study groups to identify operational concepts
- Evaluates potential joint acquisition programs
- Selects potential candidates for joint development and acquisition; serves as Military Service review for major joint programs
- Provides documentation for MNS and Systems Concept Paper
- Oversees requirements aspects of joint management and interoperability issues

Source: "Joint Requirements Oversight Council," *JCS Admin Pub 1-1*, The Joint Chiefs of Staff, Washington, D.C., October 1, 1988, pp. IV-25 to IV-28.

Changes to the JSPS and to the JROC charter in accordance with the DMR further broadened the scope of the JROC involvement in the requirements process. The DMR specified that the JROC should:

... assume a broader role in the threshold articulation of military needs and the validation of military needs and the validation of performance goals and baselines for all DAB programs at their successive Milestones. That broader role would require ... the JROC to review all deficiencies that may necessitate development of major systems, prior to any consideration in the DAB. Based on inputs from the CINCs, Services, and elsewhere, the JROC will review the validity of an identified mission need (as distinct from

any potential system or program), assign a joint priority for meeting the need, and forward an approved mission need statement to the DAB.⁷

Accordingly, a new JROC charter has been approved by the CJCS and approved by the Deputy Secretary of Defense. In particular, the JROC is to be an instrument of the CJCS, rather than the JCS. It is expanded to "all warfighting deficiencies" and is now an advisory body to the CJCS and DAB Chairman. It is responsive to the CJCS and SecDef rather than to the JCS and the Services.

The DMR and these charter changes have given rise to issues relating to how to determine "all deficiencies" that might lead to development of major systems, how to determine and assign priorities, and how to develop information to follow programs through all milestones. It is anticipated that the JROC process for validating requirements and staffing requirements will remain essentially the same, but the scope of JROC involvement will increase vastly.⁸

In the wake of the Packard Commission and the Goidwater/Nichols legislation, there has been some shifting away from the monopoly that the Services had on specifying their own operational requirements. The CINC components have traditionally funnelled their operational requirements through their respective Service channels, although such requirements also often go through joint channels as well.⁹ The JROC provides a new formal channel for their participation. The VCJCS, as chairman of the JROC, serves as the honest broker for all the CINCs that support the JROC. The JROC, which initially reviewed operational requirements solely from the standpoint of joint application, has begun to exercise that function for single-Service operational requirements as well.

The mechanism is in place to provide a strong military voice in the defense acquisition process--the VCJCS is Vice Chairman of the DAB and the CJCS a member of the DPRB. There are, however, several procedural issues noted in this discussion relating to how the JROC will exercise its authority. Of particular concern is how the JROC will contribute to shaping the Secretary's overall modernization objectives. We conclude the

⁷ *Defense Management Review*, op. cit., pp. 7 and 17-18.

⁸ JROC involvement in all DAB programs will be relatively straightforward, but 70 non-DAB major programs have been delegated to the Services for implementation. It will be tough to break into that system, but all programs are legitimate areas for JROC involvement.

⁹ For example, the requirements of the Commander-in-Chief, United States Air Force Europe (CINCUSAFE) are routed through Headquarters Tactical Air Command and are consolidated or reconciled with those of CINCPACAF and the Tactical Air Command. Such requirements also go through Commander-in-Chief, Europe (CINCEUR) to the CJCS or Secretary of Defense.

JROC could most effectively influence acquisition programs by participating in the development of the Secretary's modernization goals, and then using the DPG's goals and resource roadmaps as the basis for their review of individual acquisition programs.

E. THE INVOLVEMENT OF POLITICAL LEADERS IN ACQUISITION PROGRAMS

Higher level decisionmakers who control DoD funding possess the leverage to influence the definition and development of particular weapons or to support particular missions or research programs. Since World War II, the President, the Congress, and the Secretary of Defense often have intervened to shape individual programs or to support programs that would not otherwise find sponsorship within the Service development communities. Such high-level involvement has occurred for four main reasons: enforcing policy, increasing efficiency, pushing innovative approaches, or supporting a neglected mission (see Table V-8).

In the absence of the kind of planning process outlined in Chapter II and an effective *Defense Planning Guidance*, the SecDef has found it difficult to give direction for program development to the Services except through direction of specific programs. The alternatives employed have varied from using a special funding mechanism to setting up a new Executive agency (Table V-9). Perhaps the most famous and striking example of such an arrangement is the Manhattan Project in World War II, with the Polaris submarine program being another important example.

Alternative funding channels also are available through a range of independent DoD Agencies. DARPA has a broad mission in development of military systems; however, with the exception of some early space systems, DARPA has not procured or deployed systems.¹⁰ The National Security Agency and the Defense Communications Agency do procure systems, but only those specialized systems involving intelligence and communications.¹¹

¹⁰ *Historical Evaluation of the Advanced Research Projects Agency*. (Washington DC: Richard J. Barber Associates, Inc.), December 1975; and Herbert F. York, *Making Weapons, Talking Peace, a Physicist's Odyssey, from Hiroshima To Geneva*, Basic Books, Inc., Publishers, New York, NY, 1987. See Chapter 7, "Space is a Place, Not a Program," pp. 128-165, especially pp. 137-148, for a discussion of the founding of ARPA.

¹¹ *See Reassessment of Defense Agencies, and DoD Field Activities*, op. cit., pp. 29-31, and all of Appendix B, see especially B-2 to B-4.

Table V-8. Political^a Involvement in Service Acquisition Programs

REASON^b	EXAMPLES
POLICY	
Strategic and Nuclear Deterrence	Atlas, Minuteman, Polaris, Nuclear Weapons
Foreign Military Sales	GLCM, Pershing, Chemical Weapons
Alliance Politics	F-16, F-5
Domestic Politics	F-16, GLCM, Pershing
	M-X, ELF
INNOVATION	
Risky Technology	Stealth, submarine nuclear power, Atlas, Polaris
Alternative to Primary Service Weapon	Cruise missiles, other unmanned aerial
New Mission	Space, SDI, intercontinental strategic missiles
Threat Implication For Existing Forces	Anti-armor, Anti-submarine Warfare
NEGLECTED MISSION	
Support another Service	Close Air Support (A-10, A-7) Airlift
	(C-5A, C-17), Sealift (FDL)
Non-central	Special Operations, C ³ , drug interdiction, industrial mobilization, space, intelligence
EFFICIENCY	
High-Low Mix	F-16, F-18, FF6-7
Lower Cost Characteristics	CG-47, CVA-67 (Kennedy)
More Appropriate or Outmoded Technology	B-70, B-1, F-105, F-4
Eliminate Mission	F-106, Safeguard
Service Competition	Jupiter, Thor
Service Coordination in Acquisition	F-111, F-16, F-18, ATA, ATF, Unmanned aerial vehicles

^a Includes Congress, the Secretary of Defense, and the President.

^b Stated or inferred reason for involvement of higher authority. The authorities are making no statement that these were correct or incorrect.

A mechanism used for major high-priority technology development programs has been to create a specialized defense agency with contracting authority. For example, the Strategic Defense Initiative Organization (SDIO) was created in part because senior Reagan Administration officials believed they had not been able "to win Service support for SDI." They believed that if they set up a competition for SDI, with the winner getting the entire SDI budget, then the winner, at least, "would have committed itself most wholeheartedly to running with it."¹²

¹² "The Ever-Present Danger: Fred C. Iklé on Changing Threats to Our Freedom," *Policy Review*, Summer 1989, pp. 7-12.

**Table V-9. Historical Precedents For Selectively Shaping
And Managing Programs**

- SECDEF Direction to Services through regular decisionmaking processes
 - e.g. F-16, F-18, A-10, Or FFG-7
- Creation of special office or command channel within Service structure
 - Special Projects Office (POLARIS)
 - Ballistic Missile Office (ICBM)
 - Naval Nuclear Propulsion Program and Directorate
 - Joint Cruise Missile Projects Office
 - Stealth Fighter (alternate command channel in Air Force)
- Development through non-Service-sponsored program elements within DoD
 - DARPA
 - Defense Agencies, OSD, and Joint Staff sponsorship
 - SDIO
- Development outside DoD
 - Atomic Energy Commission (now, Energy Department)
 - NASA
- Broader Initiatives
 - Competitive Strategies
 - Balanced Technology Initiative (Congress)

Finally, the Secretary can foster broader multiprogram initiatives. A recent example of this is the Competitive Strategies initiative. Implementation of such an approach takes place in high-level steering committees, in DoD-wide working level groups, or in some cases through the creation of an office or a special assistant. Such an approach appears less effective because it establishes no direct funding authority or clear mechanisms for implementation. Competitive strategies provides logical supporting analyses for the planning process outlined in Chapter VI, and provides a case-in-point underscoring the need for a planning process to translate strategic direction into actionable guidance.

Our review concludes that the direct involvement of the Secretary of Defense, the President, or Congress in creating new programs through the introduction of extra-Service funding mechanisms is pervasive, although not systematic. Although their involvement is micromanagement in many cases, it has been constructive and needed. The Secretary, the President, and the Congress all react to particular problems, and over the years these processes have been used to fund a number of significant non-traditional programs. Growth of the defense agencies reflects one response to the historical concern that the Services were too dominant in the process. The implication for defense management is that the involvement of political leaders will and should continue. However, their involvement needs to be better structured and disciplined.

F. SUMMARY

This chapter has reviewed the processes and organizations involved in exploring new ideas for weapon programs and in defining specific programs to implement these ideas. One general observation is that the important driving force within the system is competitive advocacy among program sponsors. This competition is healthy, and the acquisition system needs to be structured to take advantage of it. Our specific findings and conclusions are as follows:

- Concerns that the Services monopolize the processes for exploring ideas and defining weapon programs are overstated, because the civilian leadership has broadened the organizational base of idea sources and has intervened in defining individual programs.
- Requirements processes will inevitably intermix mission needs with specific weapon ideas, because innovation stems both from needs and opportunities. Sponsoring communities should be free to propose their hardware solutions, but competing ideas should be nurtured as well.
- The DAB provides an important mechanism for fostering the needed competition of ideas and for meshing individual programs with overall modernization objectives. It should manage the competition of ideas in the early milestones, and link programs with the DPG's goals and resource roadmap in Milestone II and beyond, when resource demands become significant. The DMR's recent proposals move in this direction.
- National level and joint military influence could be better structured and disciplined if their inputs were framed in terms of long-range goals and roadmaps, rather than program level details. The JROC should participate in the planning process for developing the DPG, and the JROC should use the DPG's goals and roadmap in reviewing individual programs.

Based on these findings, the prototype management process outlined in the following chapter identifies several steps for strengthening the linkage between acquisition programs and strategy. Chief among these are changes in the DAB milestone review procedures to promote a competition of ideas in the early milestones and to link programs with an overall roadmap for modernization in Milestone II and thereafter.

VI. A PROTOTYPE SYSTEM FOR MANAGING MODERNIZATION

The *Defense Management Report*, the Packard Commission, and earlier defense management studies have advocated a DoD management system that would support the Secretary of Defense in establishing a long-range vision for developing effective, integrated military forces, and would provide the needed management controls for implementing this vision through specific program and budget decisions. Our review in the preceding chapters concludes that despite the progress made in defense management in recent years, some of the advocated management functions needed for managing defense modernization remain to be implemented.

The purpose of this chapter is to describe a management system that performs the functions needed to manage DoD's modernization programs according to the principles advocated by defense management experts. Presented here is a prototype planning system that would support the Secretary in examining long-range integrated planning options, and developing a coherent roadmap for modernization that is consistent with both strategy and projected budgets. The chapter then describes how to link the department's decision-making processes to this roadmap. Implementing such a management system does not require a radical overhaul of existing DoD organizations and processes, because the formal management system already is capable of performing the needed functions. However, some significant changes in practices are needed.

The main elements of this prototype can be summarized as follows:

- **Integrated Planning.** The DoD staff would support the Secretary in developing a long-range vision for integrated forces and programs. First, the Secretary would postulate options he wants examined, and the parameters of the planning environment. These would be evaluated from both a military and budget perspective, by meshing the planning activities of OSD, the Joint Staff, and the Services. The staff would then provide integrated summaries and analyses of alternatives to assist the Secretary in establishing an overall roadmap for DoD's programs.

- **Defense Planning Guidance.** A strengthened *Defense Planning Guidance*, along the lines proposed in the DMR, is proposed to convey the Secretary's vision, goals, and roadmap to the Services and defense agencies. Of particular importance for linking acquisition decision making with strategy is the DMR's proposal for a 12-year investment roadmap. Such a roadmap should reflect long-range, integrated goals for defense investment, and provide a framework for checking the affordability of proposed programs.
- **Program and Budget Reviews.** Procedures are proposed that would link the department's existing programming and budgeting processes with the *Guidance*. In the process outlined here, DPRB program and budget reviews would follow from the *Guidance*. DPRB execution reviews would track program progress using the *Guidance* as benchmarks.
- **Defense Acquisition Board Acquisition Program Reviews.** The proposed DAB review procedures would mesh individual acquisition programs with the Secretary's overall modernization goals. In this prototype process, the DAB would manage the competition of ideas to ensure a matrix of options is explored in each mission need area. Milestone II, when significant resource requirements begin, would be the main decision point for committing to the production of a particular program option. At this point the DAB, DPRB, and JROC would meet (as is presently done at Milestone 0) to ensure a selected program option fits within the Secretary's roadmap.

The following sections describe each of these components in greater detail, suggesting possible analytical and organizational approaches and formats for some of the key products of the process. Section A describes the proposed integrated planning process; Section B describes the proposed contents of the *Defense Planning Guidance*; finally, Section C outlines the proposed procedural linkages between the *Guidance* and the two major decision making processes: programming and budgeting and DAB acquisition reviews. Several specific near-term steps for adopting the practices outlined here are offered in Chapter VII.

A. INTEGRATED PLANNING

The DoD planning process should provide the Secretary with long-range analyses of the military and budget implications of strategy options he wants to explore. It must provide realistic tentative projections of the security environment and defense budgets and, at the same time, recognize that uncertainty is a fact of life that must be planned for. Planning must also balance the perspectives of DoD's leaders, including those in OSD, the joint military, and Military departments.

This section describes a long-range integrated planning process that is designed to meet those criteria. The planning consists of three main steps. These are shown in the top half of Figure VI-1. The three main elements of the planning process can be summarized as follows:

1. **Planning Initiation:** This step allows the Secretary to stipulate the planning issues and options he wants addressed. His policy staff would define the scenarios and parameters to be used in planning. These inputs to the planning process would be documented in a Planning Initiation Memorandum.
2. **Analysis:** The appropriate OSD, joint military, and Service staffs would participate in study teams analyzing the options stipulated by the Secretary. The joint military and Services would take the lead in conducting military net assessments, which examine the military implications of the options. In parallel, OSD and the Services would take the lead in conducting investment area assessments, which examine their resource implications.
3. **Integration:** In this step, the Secretary's staff would draw together the options and analyses into a comprehensive summary, presented at a level of detail appropriate for the Secretary's review. The summary document is the Integrated Options Memorandum (IOM).

As illustrated, this planning process provides the staff input for the Secretary, which he uses in developing the *Defense Planning Guidance*. (Hence this planning process replaces the committee system used formerly in drafting the *Defense Guidance*.) The following three subsections describe these planning steps in greater detail.

1. The Planning Initiation Memorandum

A planning cycle would begin when the Secretary issues a "Planning Initiation Memorandum." It would broadly define the strategic options he wants addressed by the staff. These fall into the four components of strategy, as defined in Chapter II:

- national security objectives;
- operational strategy;
- force goals; and
- resources (budgets, technology, infrastructure).

The Planning Initiation Memorandum would be prepared for the Secretary by the Under Secretary for Policy. It would specify the planning cases that should be addressed and the key planning assumptions and parameters that should be incorporated in ensuing analyses. Two important functions of the Under Secretary's planning staff will be to distill available

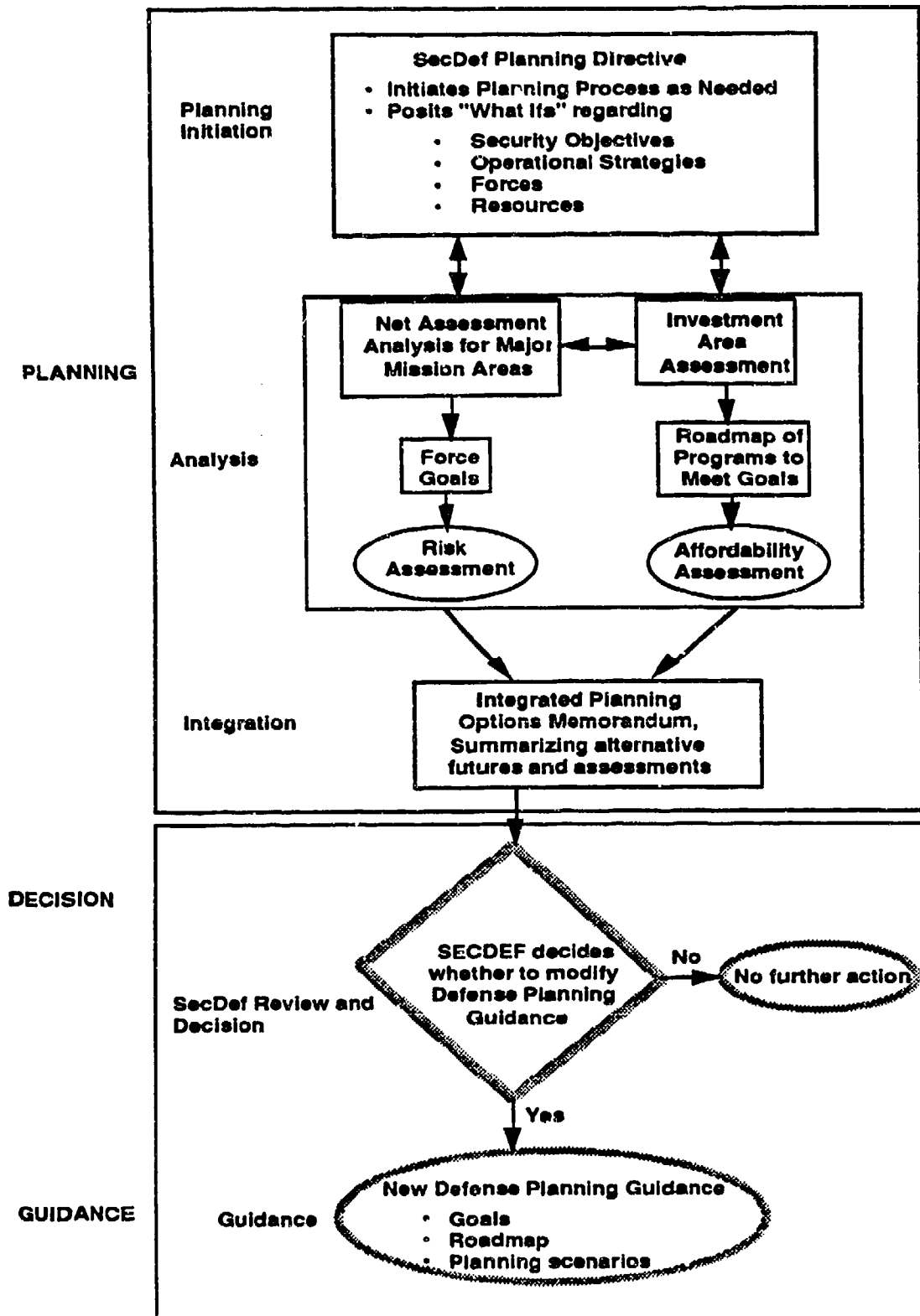


Figure VI-1. Overview of the Proposed Planning and Guidance Process

information, and screen a potentially vast array of candidate strategic alternatives so that the most promising are considered.

Three highly important sets of parameters would be stipulated in the Planning Initiation Memorandum: planning scenarios, associated threats, and operational objectives. These provide the bridge from general objectives, and the broad National Military Strategy, to the more specific cases in which meaningful assessments of military posture can be made. Hence, a key element of linkage is the identification of specific, concrete planning scenarios and associated military tasks that are implied by the higher level strategies and goals.¹

Finally, and perhaps most importantly, the Planning Initiation Memorandum would include budget targets for planning. As noted in Chapters III and IV, it is essential that such projections represent a fair (and even conservative) assessment of the defense budgets that the American public will support. The planning memorandum should also stipulate alternative budget profiles, within a range of the baseline projection, to account for the inherent uncertainty in budgets and the security environment. Included in this will be the contingency and mobilization planning, which would consider how the department would make use of additional spending authority should it become available in a time of emergency. Mobilization planning will become more important if the anticipated trend continues toward reductions in standing military forces as we increasingly rely upon the country's latent military power.

In addition to conveying these planning parameters, the Planning Initiation Memorandum would serve three management functions. First, it would signal executive-level interest in the results of the planning process, which has been demonstrated to be essential for successful strategic planning in large business organizations. Within the Pentagon, the Secretary's support would focus the attention of those officials needed to make the process work. Secondly, it would emphasize that the planning process is not just a routine, calendar-driven activity but is intended to address important issues. As a result, the products of the process would remain current and useful for decision making. While periodic reviews of plans and guidance should be part of the process, planning cycles

¹ An important strand of the strategic planning literature relates to the problems of identifying plausible alternative states of the world. These specifics provide concrete examples or situations that military planners and tacticians can plan for and assess. It is essential that reasonable and unbiased planning parameters be established. This requires a factually based view of the world, unbiased projections of future trends, and realistic assessments of the constraints on defense programs. For an application in defense planning, see Barry M. Blechman and Victor Utgoff, *Realistic Planning Scenarios*, Institute for Defense Analyses, P-2030, July 1987.

would also be undertaken as events warrant, because rapidly changing events could quickly out-date plans. Finally, by specifying a range of possible strategies and budgets for examination, the directive would signal the Secretary's desire for flexibility and foresight in preparing for an uncertain future.

2. Analysis

In the analysis phase, the DoD staffs would study the alternatives stipulated by the Secretary, and develop assessments of the military and budget implications of the options. Figure VI-2 provides a schematic diagram of the analysis process. In practice these analyses would be interactive, with numerous feedback loops that are omitted from the diagram for the sake of simplicity. There are three main activities involved, as represented by the three broad bands of activity highlighted in the schematic:

- **Military net assessments:** For each planning case, and year, alternative futures and objectives are specified as shown at the top of the figure. (In the illustration, 1995 and 2000 are used as examples.) Force goals are postulated for each year, and national security risks are assessed in the "net assessment" analyses.
- **Investment area assessments:** Given postulated force goals, current forces, and projected budgets as inputs, the investment area assessments provide an overall, time-phased summary of the programs and budgets needed to meet the postulated planning goals. These assessment also evaluate the affordability of the postulated force goals, providing an assessment of whether the strategy options objectives under review are realistic.
- **Resource Roadmap:** The summary of the programs and budgets needed to meet the force goals provides a roadmap for guiding near-term decisions on programs so that they are consistent with the long-range objectives.

The following subsections describe each of these three analytical activities or products in greater detail.

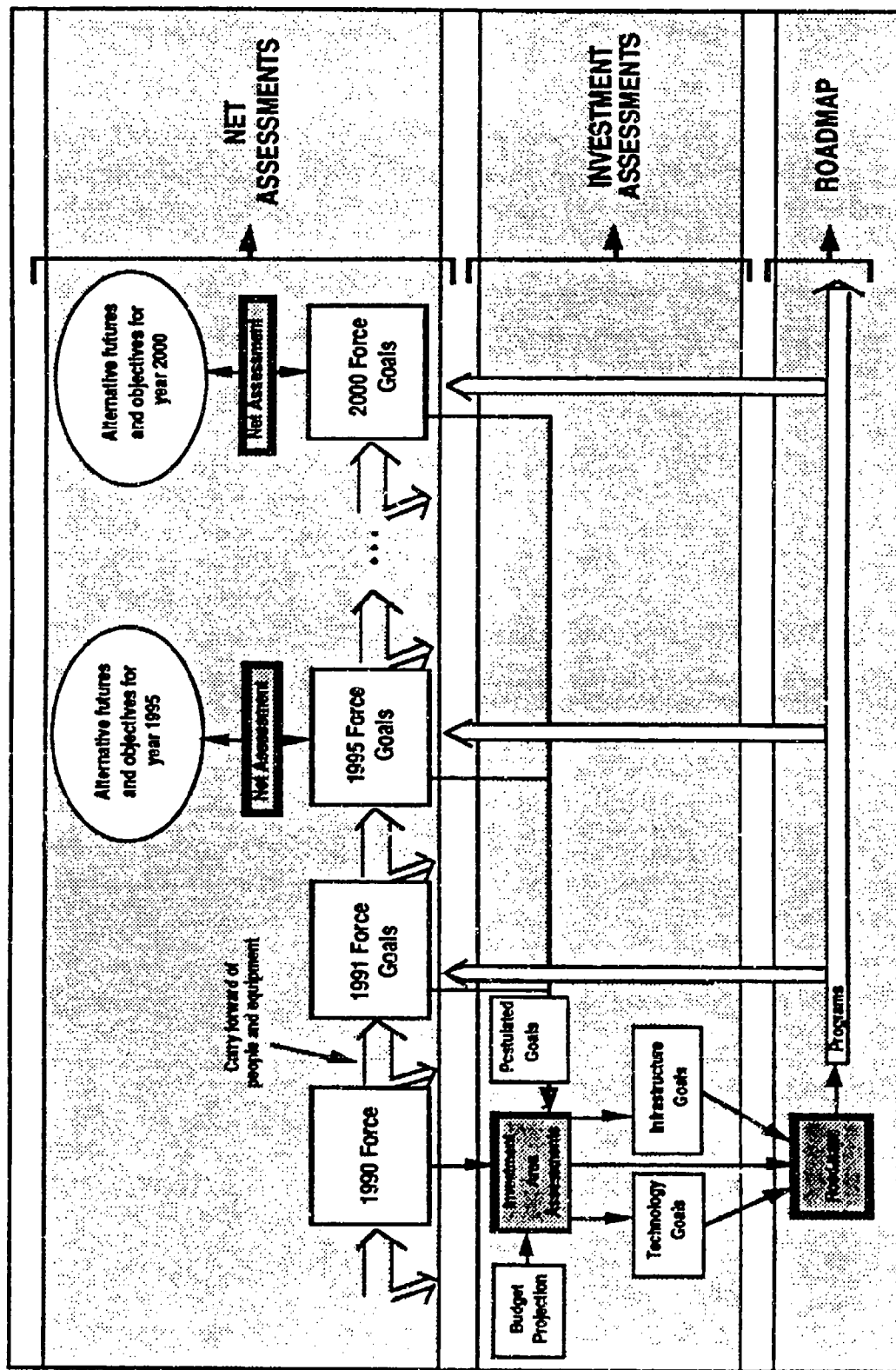


Figure VI-2. Investment Area Roadmaps Link Programs with Short-, Mid-, and Long-Range Goals

a. Net Assessments: Force Planning and Goal Setting

The purpose of the net assessments is to obtain military advice on the military implications of the Secretary's planning options. The net assessment process therefore would postulate and analyze forces appropriate for the scenarios stipulated in the Secretary's Planning Initiation Memorandum. The force goals would be defined by the Chairman of the JCS, supported by the Joint Staff, the CINCs, and the Services. Alternative strategic choices postulated for examination by the Secretary would require examination of a range of force goals (and related force employment and deployment strategies). Examples of the alternatives and tradeoffs that would be relevant include the following:

- Mix of active forces and reserves;
- Balance of forces in being versus mobilization capabilities;
- Balance among the major defense missions, such as strategic versus conventional, or NATO versus non-NATO;
- Balance of forward deployment, prepositioned equipment, airlift, and sealift ;
- Forces and equipment for non-NATO combat;
- Balance between the procurement of new weapons and maintaining the readiness of existing forces; and
- Mix of technology capabilities to be developed in the next 10 to 15 years.

It is proposed that the net assessments be organized by major mission area, such as summarized in Table VI-1. The primary reason for this is that structure would provide a planning framework that is compatible with the planning responsibilities of the CINCs. The table includes eight major mission areas, along with one cross-mission area, focusing on functions, products, or technologies that support several missions. An analysis similar to those done for the mission areas would be done for each of these cross-mission areas.

Table VI-1. Mission Areas for Net Assessments

• Strategic	• Space	• NATO
• Pacific	• Maritime	• Regional and Low-Intensity Conflict
• Counter-terrorism/narcotic	• Mobility	• Cross-mission Issues

In the proposed process, force planning and net assessments would continue to be the responsibility of the Chairman of the JCS. The major steps are summarized in Table VI-2. The first five elements shown are inputs to the process, which are supplied by the Planning Initiation Memorandum. Given these parameters and postulated forces, assessments are made regarding deterrence, peacetime objectives, and warfighting contingencies. These are then integrated into an overall risk assessment. Such

Table VI-2. Steps In the Net Assessment

<p>Strategy Inputs and Planning Guidance (from the Planning Initiation Memorandum)</p> <ul style="list-style-type: none"> • Definition of national security goals and interests • Summary of observed and projected military postures • Projections of trends in non-military factors • Alternatives to reflect key uncertainties or risk factors • Planning scenarios <p>Postulated Forces, Technology, and Infrastructure</p> <ul style="list-style-type: none"> • Structure • Modernization • Readiness • Sustainability <p>Assessments</p> <ul style="list-style-type: none"> • Deterrence and peacetime objectives • Warfighting gains or losses given occurrence of contingencies • Overall risk assessment
--

assessments are already conducted as part of the Joint Strategic Planning System, and the tools for conducting this expanded level of analyses are available within the Joint Staff as well as throughout the DoD community. The Joint Staff should provide the organizational structure to systematically tap analyses conducted within the Services and other defense agencies. These include military judgment, war games, computer simulations or models, and possibly training exercises for some near-term assessments.

The CINCs and Services also should participate, as they provide needed expertise and perspective for defining integrated forces.² The CINCs' participation is essential to

² As needed, the Joint Staff could form temporary task teams to prepare the net assessments. The task teams would be drawn from the Joint Military Organizations, the Services, and OSD, and be dedicated to the preparation of the analysis (on temporary duty assignment) and supported by two or three

reflect their perspectives on the mission areas (which correspond with their military responsibilities). Further, their participation in the process would meet the goal, discussed in earlier chapters, of giving the CINCs a more systematic mechanism for influencing the overall direction of modernization programs. Service participation would provide a needed mechanism for integrating their warfare area planning into coherent overall plans. As noted in Chapter V, the Joint Requirements Oversight Council should be involved in developing the modernization goals within this planning framework. This would provide an opportunity for the JROC to infuse an integrated perspective into the overall modernization program. Working together, the Joint Staff, Services, and CINCs could thus provide an integrated military perspective in evaluating the strategic choices postulated by the Secretary and in proposing commensurate force goals.

Force goals are a major product of the net assessments because they provide essential inputs for the investment area assessments. They must stipulate target levels of readiness, sustainability, and modernization over the planning period, as well as force structure, because such targets are essential for translating force goals into programs. (Force structure goals could be consistent with a wide range of programs, depending on targets for modernization, readiness, and sustainability.) Goals would thus include the major modernization initiatives relevant to a mission. An example of one set of force goals for the European mission is presented in Table VI-3, which illustrates a proposed format for enumerating these goals. The table presents several notional modernization initiatives that would shape and determine acquisition programs.

strategic planning professionals within the Joint Staff. The Marine Corps process for Mission Area Analyses provides a useful model for this. The Marines bring fleet officers to the headquarters for three to four months. They work with a cadre of professional staff to develop the analyses and then return to their normal duty assignments.

Table VI-3. A Notional Example of Force Goals for NATO Ground Forces

Force Goals for The 1990 to 2005 Planning Period

Mission: Ground combat forces for forward defense in NATO/Europe

Assumed Future (Important Contingencies and Risks):

Standing forces on both sides will be reduced through arms control or unilateral force reductions. Warsaw Pact cohesion is doubtful. Risk is Soviet policy reversal or European intra-regional conflict.

Force Units: Close combat forces

The force goals summarize for major units (divisions, naval task groups, or air wings) the goals in the four major capability areas: structure, readiness, sustainability, modernization.

1. Force Unit Structure:

Maintain two armored divisions forward deployed throughout the planning period.

2. Readiness Standards:

Throughout the period meet specified training and exercise standards, equipment readiness standards, and deployment standards.

3. Sustainability Standards:

Fill 80 percent of CINC inventory objectives for war-fighting consumables.

4. Force Modernization Initiatives:

Equip two divisions with the 1995 generation armor package
Equip one division with the 1995 generation communications package
Equip one division with the 1997 generation air defense package

(Modernization packages would be defined in supporting documents.)

b. Investment Area Assessments

The investment area assessments perform the accounting calculations needed to estimate the programs and budgets required to meet planning goals. Thus they provide the bridge between the force goals postulated in the net assessments and the resources required to meet the goals. Table VI-4 presents the main steps in an investment area assessment. As noted in Chapter III, analyses such as these are already commonly done within the military departments for their warfare, functional, product, or technology areas. These include existing master plans, roadmaps, and mission area analyses. These individual plans should be integrated by explicitly tying them to the planning parameters stipulated in the Secretary's Planning Initiation Memorandum; today there is no overall framework for integrating such analyses.

Table VI-4. Investment Area Assessments

- **Inputs:**
 - Postulated force goals
 - Existing forces
 - Program options within the investment area
 - Projected budgets
- **Analyses:**
 - **Summary of Current Modernization, Technology, and Infrastructure Programs:** Programs presently planned and projected in the investment area, looking 15 years into the future.
 - **Operations and Support Analyses:** Projects the costs of operating and supporting forces at the target levels of structure, readiness, and sustainability.
 - **Inventory Management for Sustainability:** Acquisition needed to replace retired or damaged hardware in the investment area. Examines technological capabilities of current inventories, average age, physical depreciation, and depreciation of war fighting capabilities.
 - **Major Modernization Options:** Program opportunities for improving capabilities in the mission area over the next 15 years, including service-life extension, upgrades, and new equipment.
 - **Technology Options:** Long-range (15+ year) technology and threats relating to the investment area. This analysis would help in setting and reviewing technology goals and in defining needed programs.
 - **Infrastructure Options:** This analysis would examine how the defense production, technology, and scientific infrastructure contributes to force goals, which would be used in setting infrastructure goals and in defining needed programs.
- **Output**
 - **Resource Roadmap:** Examines the costs associated with the options in the investment area (Operations and Support, Modernization, Technology, and Infrastructure).
 - **Affordability Assessment:** Balance of projected programs with projected budgets.

Although investment area assessments are commonly thought of in connection with modernization programs, they can only be meaningful and useful if they also consider operations and support programs as well as investment programs. (As was illustrated in Figure VI-2, force capability at any point in time reflects a cumulative investment in people and equipment; thus, forces in the year 2000 will reflect current capabilities and the array of budgets through the 1990s for maintaining and strengthening these capabilities.³) One reason for this is that there are two important tradeoffs between acquisition programs and

³ For example, if the average life of a major weapon is 25 years, then 60 percent of the equipment that will comprise the year 2000 force has already been purchased. See Figure II-4.

operation and support programs that must be considered. First, the tradeoff between spending for operation, sustainment, and support accounts and investment accounts is generally recognized as a tradeoff between near-term and future forces. Second, acquisition decisions shape the future inventory, thus influencing hardware-related operations and support costs. Hence, both should be considered together in developing a resource roadmap.

Investment area assessments would not require the full detail of information presented in defense programs and budgets. The planning process should be supported with financial analysis tools in order to project the costs of operating, maintaining, and modernizing forces.⁴ Financial planning, for example, could use projections based on planning factors derived from historical cost relationships. Investment area assessments also would provide a basis for setting goals with respect to technology development and defense infrastructure. Technology development and demonstration goals would indicate the broad areas of research and development that should be undertaken within the planning period to explore possible building blocks for forces beyond the planning period--in 2005 and beyond. These goals would be organized by product area (such as aircraft, or radar), technology area (such as integrated circuits, or materials), or warfare area (anti-armor). Examples are illustrated in Table IV-5.⁵

Table VI-5. Technology Goals

Technology goals would describe the new developments that would be undertaken in the planning period for weapons that would be deployed beyond the planning period.

For example:

Investment Area: Counter-air superiority in NATO/Europe mission

Important Threat Drivers: High-density counter-air, etc.

Alternative approaches and essential capabilities associated with each.

Key elements of deployable technology needed for approach to succeed.

Goals for developing needed technologies, and projected milestones for advancing into concept development.

⁴ Some examples include: The tools of analysis are described in Chapter VII.

⁵ As discussed in Chapter V, DoD already has established a process for developing overall long-range technology goals through the establishment of R&AT task force.

In parallel with the technology development goals, infrastructure goals would be set in terms of the industrial and research and development capabilities to be maintained or developed over the planning period. These goals could be either in support of planned peacetime production requirements or preparations for mobilization, as illustrated in Table VI-6. In the industrial area, goals might relate to production capability, production line modernization, or maintenance and repair facilities. One example might be munition production capability goals; another might be programs to promote total quality management in the defense production base in order to raise the overall level of productivity. Goals for research and development would relate to the capabilities to be maintained within the base of governmental and quasi-governmental labs and research facilities or to government-subsidized research consortia. The planning goals would relate to specific infrastructure programs or broad categories of capabilities, and would not serve as a guide for directing business contracts to certain firms.

Table VI-6. Infrastructure Goals

Infrastructure goals encompass the defense science, technology, and industrial infrastructure to be maintained over the planning period. They could also relate to the infrastructure needed to mobilize forces or to programs and policies to improve the defense supplier base. Goals would relate to areas such as:

- Maintain the science and technology laboratory base
- Maintain the production base for ammunition or other high priority items
- Maintain the manpower mobilization base
- Maintain standby transportation capabilities for mobilization
- Introduce Total Quality Management in the defense contracting base
- Streamline the acquisition process

The lead responsibility for developing the investment area assessments and resource roadmaps relating to modernization programs should be placed with the Under Secretary for Acquisition, because its primary purpose is to guide the decision making process as it relates to modernization. Staff should be assigned to take the lead responsibility for each investment area, and be responsible for the investment area analyses in support of the planning process as well as for developing and maintaining the resource roadmaps relating to the long-range goals established in planning, which in turn would provide detailed breakouts of programs summarized in the resource roadmap developed for the DPG. During DAB milestone reviews, they would determine whether the program under review is consistent with the resource roadmap.

c. The Resource Roadmap

The purpose of the resource roadmap is to summarize the time-phased programs and budgets needed to meet a set of goals established in the planning process. Thus they provide the bridge between planning and the actions that would be needed to carry out the plans. In practice, all of the individual major modernization programs, as well as summaries of significant modernization efforts within Service warfare capability areas, would be summarized and related to the Secretary's goals. The resource roadmap would thus provide an overall check on the internal consistency of planned programs.

The basic structure proposed for the resource roadmap is illustrated in Figure VI-3. Panel (a) illustrates an overall roadmap, which shows the breakout among the broad categories of the defense budget. It provides for funding of operations and support activities at levels consistent with planning targets for structure, readiness, and sustainability. It also provides for MILCON and other miscellaneous expenditures. The final category then shows the projected funding available for modernization activities. Panel (b) provides a more detailed view of the modernization roadmap. (Parallel detailed roadmaps should be developed as well for the other budget categories, such as manpower or operations.) In this proposed conceptualization, modernization programs are classified into one of five categories in support of modernization goals:

- Idea generation: includes spending for meeting technology development goals, including research and development, concept exploration studies, and program demonstration and validation. This funding covers all of the "idea generation" activities for the development of options, which may or may not be committed for production. In the illustration, spending for idea generation is projected to continue at a relatively constant level of effort;
- Defense infrastructure: includes spending for meeting defense infrastructure goals, including productivity enhancements, investments in emergency production capabilities, materials and fuels stockpiling, etc.
- Current production programs (Milestone III+): includes projected spending for all programs for which production commitments have been made. As these programs mature, projected funding declines.
- Programs in full-scale development (Milestone II+): includes projected spending for programs with approval for full-scale development. As noted in Chapter V, this milestone should be the major commitment point because it marks the beginning of significant program costs; therefore, these programs should fit within projected resources.

- Tentative or uncommitted programs (pre-Milestone II): includes projected funds that either are tentatively earmarked for programs that have not already passed Milestone II, or are projected to be available but are not yet committed. These are the funds that can be allocated for new programs coming up to Milestone II without cutting back on existing plans.

Such a roadmap--backed up by underlying programmatic detail--provides a mechanism for the Secretary to understand and manage the resource commitments implicit in acquisition program decisions. The roadmap is structured to emphasize the Milestone II decision as the point where major resource commitments are made. This is done in two ways--(a) by treating the funding for the concept development and demonstration/validation phases as investments in ideas rather than as commitments to a given program, and (b) by ensuring that all programs passing through Milestone II are expected to be adequately funded.

As noted earlier, there will be an interactive process among the three components of analysis--force planning, investment area assessments, and roadmaps--necessary to bring the elements of strategy into balance. Improvements in tools and data will likely result as the process matures, making it easier to examine alternative "what if" cases. The final result of the analysis phase, as was shown in Figure VI-1, is a risk assessment and an affordability assessment for each planning case examined. These assessments thus mesh the four elements of strategy and provide an integrated view across Services, missions, and functions.

3. The Integrated Options Memorandum

The planning process is designed to consider a number of strategy options and alternative budget projections. The purpose of the Integrated Options Memorandum is to summarize and integrate these analyses in a format that is most useful for the Secretary's review. The Integrated Options Memorandum (IOM) would lay out the security options and examine their implications for overall DoD programs and budgets. Preparation of this document would be the responsibility of the Undersecretary of Defense for Policy, working under the direction of the DPRB. (Since this document defines the integrated force goals associated with strategic choices and resources, the senior decision makers within OSD, the joint military, and the Services must oversee its preparation. In particular, it is essential that the Chairman of the JCS provide an assessment of the options considered.)

A notional executive summary is presented in Table VI-7 to illustrate the proposed format. Such an outline would provide a high-level overview of strategic choices, along

with commensurate operational strategies, forces, and resources. It would further provide an overview of the planning issue cycle and describe the options considered in developing the options memorandum. Examples of issues and options are shown to illustrate the types of points that should be raised.

Table VI-7. The Integrated Options Memorandum (Executive Summary)

1.	Reason for the review: Key challenges, opportunities, and choices affecting forces and modernization programs <ul style="list-style-type: none">- Arms control- Soviet policy dynamics- Politics of NATO (US and European)- Technology initiatives and developments- Domestic budget politics
2.	The major strategic choices and associated long-range integrated goals defined. The net assessments and financial assessments presented. <ul style="list-style-type: none">a. Status quo--maintain current program balanceb. Competitive strategies for NATO (modernization emphasis)c. Conventional arms control (restructure NATO forces)d. Reserve reliance posture (shift units to reserves)e. High mobility posture (reduce forward deployments, emphasize Mobility, Basing, Host Nation Support)
3.	Defense options and goals in the context of the overall economy 10 to 15 years into the future. Defense budget needed to support current program, and for major options: <ul style="list-style-type: none">a. Baseline: Projected operating and support costs for sustaining the current forceb. Budgets needed for successful implementation of the options outlined in preceding section (or risk assessment for alternative budget levels)
4.	Major uncertainties to be resolved <ul style="list-style-type: none">- Threat- Economics- Technology
5.	Issues raised in developing the options memorandum <ul style="list-style-type: none">- Points of strong staff agreement- Points where consensus is lacking

The executive summary would be followed by an integration chapter, providing more detailed descriptions of the strategic choices examined. The integration chapter should pull together the force options laid out in each of the mission areas into a coherent package that meets overall budget constraints. For major modernization programs, the chapter would describe the spending required, and the allocation of this spending across mission and functional areas. As a benchmark, the integration chapter should always present a long-range projection of the current program.

The integration chapter would be followed by chapters focusing on each of the major mission areas, framing the issues and choices within each area. *Options in each area would be consistent with total resource constraints and keyed to the major strategic options presented to the President.* Each mission area chapter would describe the implications of major mission area choices on the resource roadmaps, ongoing programs, research and development efforts, and proposed new programs.

In summary, the three steps in the proposed planning process would (1) define the planning issues and options the Secretary wants the staff to study, (2) mesh the efforts of the appropriate staff elements in assessing the military and resource implications of each option, and (3) integrate the results in a comprehensive framework suitable for the Secretary's review. The process thus would support the Secretary in establishing his vision for developing effective, integrated forces, programs, and budgets.

B. THE DEFENSE PLANNING GUIDANCE

The *Defense Planning Guidance* provides the primary mechanism for the Secretary to convey his vision and goals to the defense establishment. Hence it is the first step in linking the long-range vision, established with the help of the planning process, into the day-to-day decisions needed to implement the vision. The main elements of guidance needed to perform this task have been identified in Secretary Cheney's DMR. These include a documented, accessible statement of national military strategy, planning scenarios, force goals, and the resource roadmap, such as described in Table VI-8.

As noted earlier, scenarios would be specified in the initiation phase of the planning process and published in the Planning Initiation Memorandum. They would provide the Services and defense agencies with benchmarks for their planning and evaluation activities. A set of these scenarios should be maintained throughout the process and published in the *Defense Planning Guidance*. Once scenarios are established in the *Guidance*, they would be modified only as needed to reflect unanticipated changes in world events.

The planning process would develop alternative long-range goals and roadmaps for each of the planning cases considered. These alternative analyses are summarized for the Secretary in the IOM and, based on these alternatives, the Secretary would review the DPG's existing goals and the roadmap. As noted in the preceding section, goals would cover three main areas--forces, technology development and demonstration, and infrastructure for production and research and development. The roadmap would then describe the time-phased funding projected to meet these goals.

Table VI-8. Proposed Contents of the *Defense Planning Guidance*

Defense Policy, National Military Strategy, and Alternative Futures	
The DPG should include the Secretary's Statement of Defense Policy and the National Military Strategy	
Planning Scenarios:	Describe kinds of conflicts, threats, and operational objectives the military should be prepared to fight. Scenarios provide the parameters to be used in net assessments and in assessing individual weapons programs.
Goals:	Long-range goals describe the Secretary's 15+ year planning goals. Intermediate milestones translate these goals into needed near-term actions.
	Forces: Force units, readiness, and sustainability standards, and modernization goals
	Technology: Development programs for potential weapons beyond the planning period
	Infrastructure: Technology and industrial capability goals
Resource Roadmap:	Describes the time-phased funding required for the operations, support, and investment programs needed to achieve goals.
Priority Planning Objectives (PPOs)	The specific, mandatory programs and actions the Secretary directs components to undertake. This guidance should reflect a management-by-exception approach, in which the Secretary gives specific guidance only when he anticipates that components would not otherwise undertake desired programs.

The Priority Planning Objectives (PPOs) provide the Secretary with a mechanism for issuing directive guidance when needed to augment overall goals and roadmaps. This selective approach is appropriate for two reasons. First, most of the Services' core programs are consistent with an overall integrated program; the Secretary should not have to issue guidance to tell the Services to do what they would do anyway. Second, since the proposed planning process involves the Services in establishing goals, the overall program should be well understood by their senior leadership as well as that of the defense agencies.

To illustrate the role of the PPOs, consider the hypothetical force goals (listed in Table VI-3) for the Army to upgrade communications for two armored divisions by FY 2005. The Secretary may feel it necessary to issue only a general goal if he believes the Army will modernize in a way consistent with the Department's overall goals. However,

the Secretary may wish to direct specific facets he believes might not be incorporated in the Service program, e.g., he may stipulate that any upgrade enable the Army to communicate with the Air Force or the Marines. Other areas where PPOs would be appropriate include joint mission areas or mission areas such as air- or sea-lift, where the Army is a user and another Service is a provider of the capabilities.

C. LINKING THE DPG WITH DECISIONMAKING

The DPG would provide the backbone of the proposed defense management system by describing the basic direction for the Department's programs to decisionmakers throughout the DCD. In doing so, it defines the constancy of purpose needed to guide and discipline decisions on budgets and modernization programs. This section discusses how the DPG should be used in these decision making processes.

1. Programming and Budgeting

Chapter IV indicated the need to create explicit procedural links between the *Defense Planning Guidance* and both Service POMs and the program and budget reviews. The proposed relationships are illustrated in Figure VI-4 for a start-up cycle of the process. The figure illustrates an IOM resulting from a planning cycle conducted in the Summer and Fall of 1991. Based on this, the Secretary would review the existing *Guidance*, and reissue the DPG with any revisions at about the same time as the President's budget is sent to Congress in January 1992. (This choice of dates represents a compromise desire to have up-to-date guidance available for Service POM drafting, and the desire to incorporate the program and budget decisions made in Congress and the White House in the fall of each year. It is therefore proposed that the IOM be issued at about the time Congress completes its annual budget cycle in October, and that the DPG be issued with the new President's budget in January.)

The DPG could be used in dealing with the Congress (and with the public) in explaining and defending the President's budget, even though it would not be a public document. The DPG also would be available for the final few months of the POM development cycle in the Winter of 1992. (As a practical matter, the planning for the IOM under development in 1991 would be done concurrently with the components' POM preparation for their Spring 1992 submissions. Concurrent planning and POM development provides an interactive framework for relating the POMs to the integrated goals and roadmaps being developed in the planning process. Hence, component staffs can begin to consider integration issues as the POMs are formulated in their early stages.)

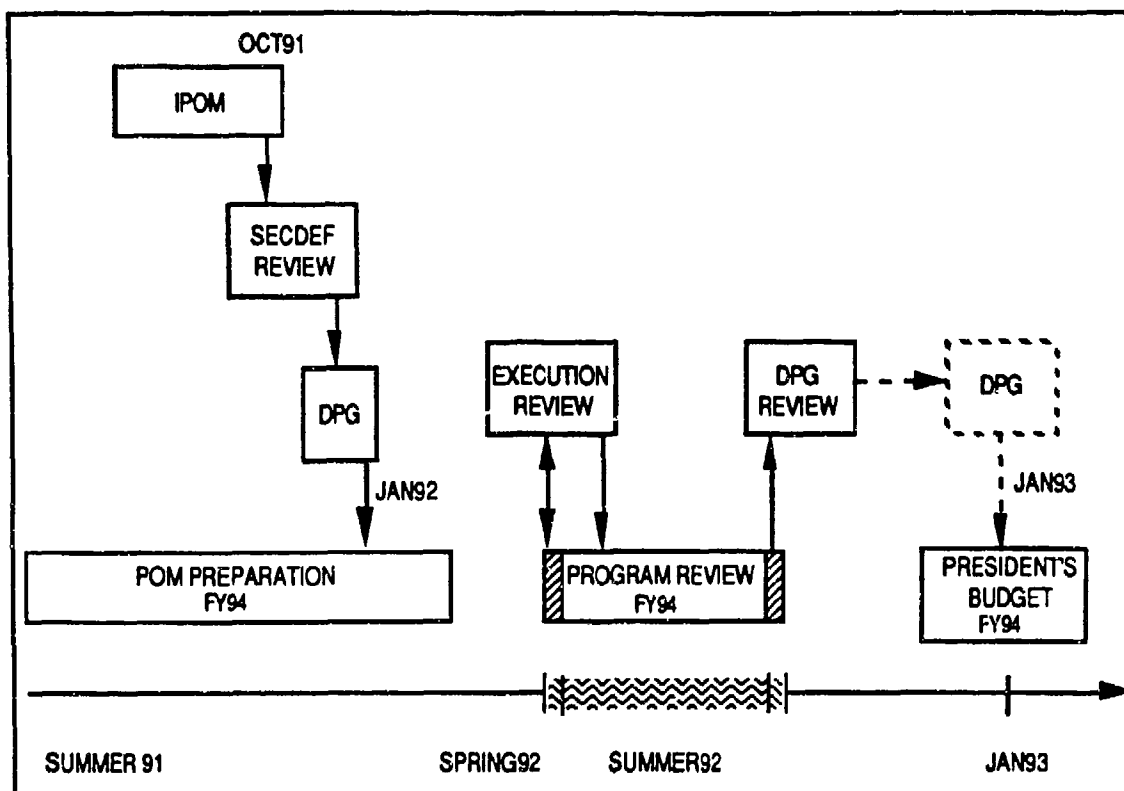


Figure VI-4. A Proposed Start-up Cycle for the Planning, Programming and Budgeting Linkage

As shown in the figure, the DPG would be used in POM development after Jan 1992. Then at the outset of the program review in the Summer of 1992, the DPG would be reviewed and revised as needed to reflect changes. The procedures for establishing the linkage in the program review cycle are straightforward, comprising three main steps as summarized in the center of Figure VI-4:

- At the outset of the program review, an execution review examines how well programs have progressed relative to the plans, and reviews the existing resource roadmap. In short, it provides an overall review of the current status of programs. This review allows plans to be modified to reflect actual program status, and thus sets the stage for the review of POM submissions;
- The DPG's goals and roadmap--as modified in the execution review--should be used to evaluate the overall balance of the POMs in the DPRB issue cycle, and should be incorporated in issue papers on specific program issues; and
- The results of programming and budgeting should be incorporated in the DPG at the conclusion of the programming phase. In particular, specific decisions should relate to goals, the roadmap, and PPOs. Hence, the DPG provides a

systematic institutional memory, incorporating decisions as they are made, and thus providing a basis for continuity and discipline in decision making.

In addition, in the longer run, periodic progress reviews should review programs in terms of long-range goals. Benchmark, unrevised goals and plans should be maintained for comparative purposes. For example, the goals set in 1991 should be retained to assess the progress of programs over the next several years.

2. Acquisition Program Definition

Our review in Chapter V concluded that an overarching framework for managing defense modernization is needed in order to define individual programs so that they form the appropriate building blocks for an effective and integrated force. To do this, the system must ensure that an appropriate range of program options is considered, while at the same time limiting long-range program commitments to a level that can be executed efficiently with respect to costs and schedules. The Packard Commission recommended that this be done by withholding any long-term commitment to programs until Milestone II. This permits a range of programs to be explored at Milestones 0 and I--where funding demands are relatively modest--while still retaining the ability to control the large resource commitments that begin in full-scale development following Milestone II.

In this proposed approach, Milestone 0 would initiate a competition among program alternatives, which would continue through Milestone I. This competitive process would be similar to the formal process in effect today, except that the Secretary (through the DAB) would have more direct control over the allocation of funding for exploring options. The process would be structured to solicit and select competitive proposals from a range of organizational proponents, much as is done for major projects in the private sector. DoD seed money would be available to fund this competition, and would support needed concept studies and the demonstration and validation of technology applications. This money would constitute investments in technology and program ideas, important products in their own right. This competitive process would culminate in a major decision point at Milestone II. At this point, either a winning concept (or concepts) is selected, a decision is made to continue the demonstration and validation of alternatives in the program area, or the demonstration and validation activities are terminated. Hence, the proposed process

provides substantial flexibility in designing and developing options without a commitment to carry each of them through to the field.⁶

The following sections suggest how this approach could be implemented;⁷ the approach entails three fundamental guiding principles for DAB program reviews, as discussed below.

a. Managing the Competition of Ideas at Milestones 0 and I

Chapter V described the early research and development activities, which are the sources of new program ideas within the Services and defense agencies. The proposed DPG would provide guidance for these activities. It would contain scenarios the military should prepare for, as well as a projection of the funding likely to be available for modernization and the extent of prior commitments on these funds. Hence, the guidance would mesh these early activities with the Secretary's overall goals for modernization by providing them with the information they need to make their ideas consistent with the Secretary's overall modernization objectives.

Milestone 0 is the point at which a sponsoring community would translate these ideas into a formal proposal for a program new start, much as is required in today's formal process. The DAB's formal responsibility (advised by the JROC) would be to ensure that this proposal meets a legitimate mission need. It should study the proposal and mission need, and institute a systematic competition of ideas, as needed, to ensure that an appropriate range of alternative cost, performance, and technology options is explored. These options should then be studied and refined in the concept exploration phase.

Figure VI-5 illustrates the envisioned process. First, the Milestone 0 review would be initiated when a sponsoring organization proposes a new program start (a "Mission Needs Statement"). At this point, decisions would be made on how to structure the competition of ideas in the concept evaluation phase. The DAB would solicit or

⁶ This kind of approach has been referred to in the past as a "flexible acquisition strategy." For an early description of such a process see, "Report of the Acquisition Cycle Task Force, Defense Science Board 1977 Summer Study," (Washington D.C.: Office of the Under Secretary of Defense for Research and Engineering, 15 March, 1978). More recently, several papers have addressed the need for a flexible acquisition strategy. These include, Ted Gold and Rich Wagner, "Long Shadows and Virtual Swords: Managing Defense Resources in the Changing Security Environment," Unpublished manuscript, January, 1990, and Paul H. Richanbach, et.al., "The Future of Military R&D: Towards a Flexible Acquisition Strategy," Unpublished manuscript, Institute for Defense Analyses, July 1990.

⁷ The DMR has gone part way toward the Packard model in moving the main decision point from Milestone 0 to Milestone I. This is discussed in Chapter V.

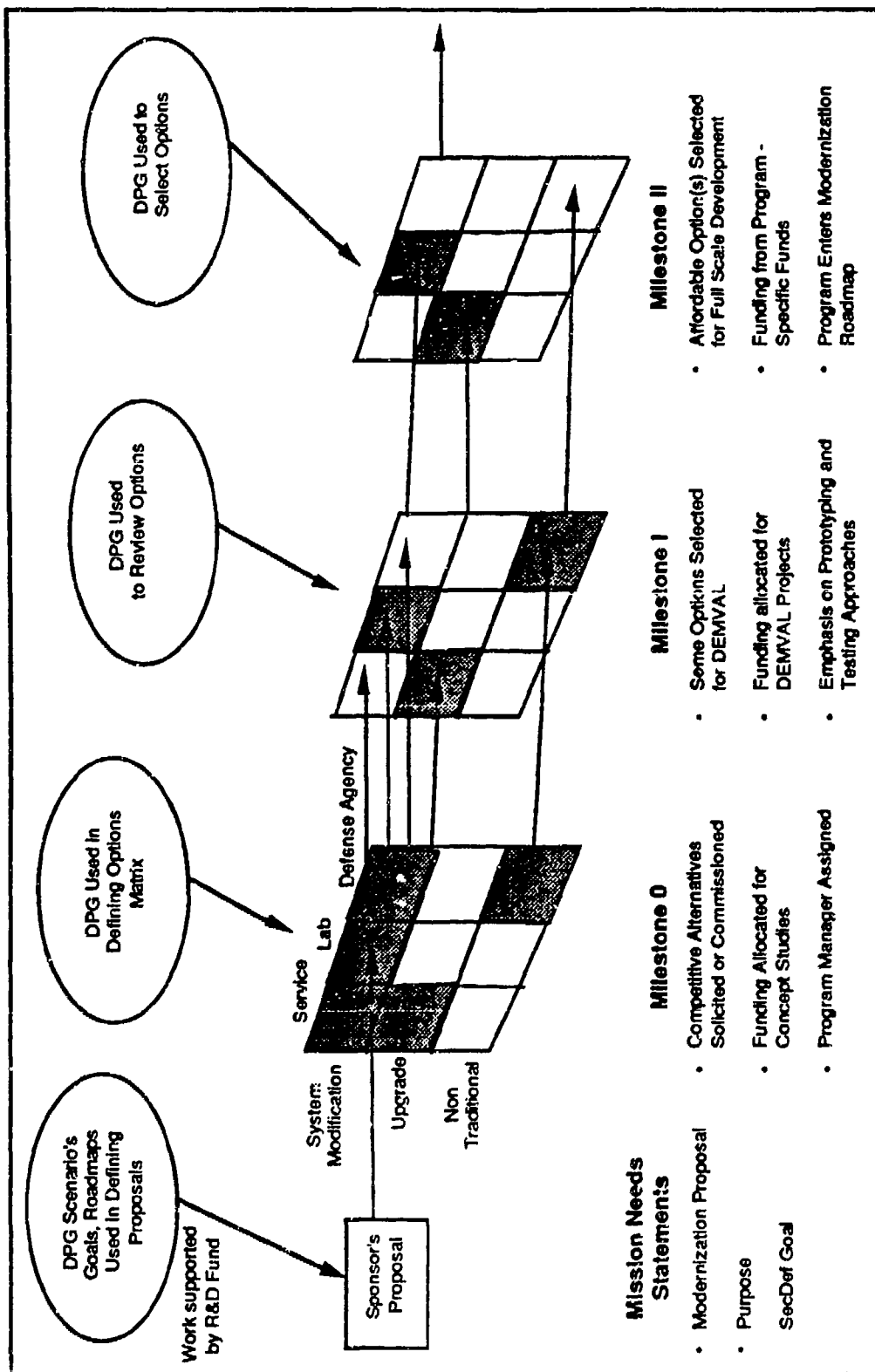


Figure VI-5. DAB Management of the Competition of Ideas

commission a range of concept studies. These options would be chosen based on a review the goals, roadmaps, and scenarios in the *Defense Planning Guidance*. As indicated by the matrix of options in Figure VI-5, these options should include a range of possible modification programs, upgrade programs, and non-traditional approaches. The organizations conducting these studies might include the Services, Labs, FFRDCs, or defense agencies. Within these options, a range of more expensive or less expensive alternatives should be considered, so that decisionmakers have the flexibility to adopt a modernization approach that is consistent with projected available budgets.

Funding for the concept studies would be allocated from concept development funds, some of which would be controlled by the Under Secretary for Acquisition, some by the Services, and some by defense agencies. These funds would be allotted annually on a level-of-effort basis by the DPRB. Such an approach would accomplish three important purposes. First, it would retain the DPRB's overall control of concept studies, but it also would give the USD(A) substantial control over the range of studies to be conducted. Second, it would solve the problem of time lags in funding concept studies by decoupling the funding of individual studies from the annual funding cycle (time lags being due to the differing time-cycles of DAB and DPRB decision making, as noted in Chapter V). Finally, it would focus program and budget decision making on the overall pool of idea generation projects rather than on specific programs. This pool of funds would be limited, so alternative studies would in effect have to compete for funds in Milestone 0.

Milestone I would operate in a similarly competitive fashion. As illustrated in Figure VI-5, the Milestone I review would examine the competing concepts and select some for further study and development. This stage would continue the competition among the options under consideration, committing additional funds to further develop concepts to the point where informed choices can be made. As with concept exploration analyses, these analyses would be funded out of a demonstration-validation level-of-effort fund, which would be allocated annually by the DPRB. Through the management of demonstration-validation funding, the DAB, Services, and defense agencies shape the overall pool of program ideas that are to be explored.

In summary, this approach entails a shift in philosophy toward managing an overall pool of ideas that are to be explored in the early milestones, rather than focusing on the details of individual programs.⁸ This requires development of a competitive process array

⁸ Gold and Wagner, *Op. cit.*, describe the current process as a "pipeline," because in practice, once a program is approved at Milestone 0, it almost always is carried through to production and fielding.

of decentralized research, studies, and analyses consistent with overall modernization objectives. The main management concern for the Defense Acquisition Board is to ensure that an appropriate range of options is explored. It would use the DPG as its guide, and thus reconcile the options that are to be explored in each mission area with the long-range roadmap.

b. Linking Programs with the DPG Roadmap at Milestone II

The purpose of the early milestones can be viewed as defining a range of options, each of which provides a potential building block for an integrated force. These options may include high- and low-cost options, which entail differing technology approaches as well as alternatives for modifications or new programs. Programs would not compete for long-range funding in the modernization roadmap in these early milestones, because there is no long-range commitment until that time. However, the roadmap would help guide the design of alternatives since it provides sponsors with a framework for estimating the range of options that are likely to be affordable. Once these options are defined and Milestone II is reached, the architects of the integrated force can review and choose those that are most appropriate, given projected objectives, strategy, threats, and budgets. Hence, the early milestones would increase flexibility in that, at any point in time, there would be a range of possible modernization programs ready to begin full-scale development.

Chapter V showed that resource requirements become substantial when full-scale development begins, so it is proposed that programs generally should not be allowed to begin full scale development unless it is highly probable that the program will be fielded. Hence, Milestone II approval should be viewed as a tentative decision to develop and field the weapon. Therefore, the program's projected budget must fit within the available uncommitted funds within the modernization roadmap.⁹ The Milestone II decision thus

The flexible approach advocated by them, the Packard Commission, and others, moves this point of commitment until much later in the program. Hence, more ideas can be flexibly explored without necessarily making a commitment to any one of them.

⁹ This process is not meant to suggest that a "commitment" to a program is unbreakable. Committed funds for existing programs may be reduced to allow other new programs to get started. However, the emphasis should be on maintaining stability on existing programs. From a management standpoint, the important contribution of this approach is that it allows decision makers to see the effects individual program decisions have on the overall commitments for modernization relative to projected budgets.

It should be noted in this regard that the 1990 Defense Science Board Summer Study of an R&D strategy for the 90's proposed a multitrack acquisition process. The acquisition decisionmaking paradigm in this report would apply to the DSB's "mainstream" programs, which include traditional major acquisition programs. The DSB's proposed "fast track" prototype programs are not intended to

requires each new program to compete against the entire array of existing and projected modernization programs in obtaining commitment for projected modernization budgets. For example, the high-cost and low-cost options for armor modernization would be considered against alternatives for aviation and communications modernization, and decisionmakers could choose which mix is most appropriate.

Because of the importance of this decision, Milestone II should be the point at which a program is reviewed concurrently by the DAB, the DPRB, and the JROC--a review that has in the past been done at Milestone 0. Our discussion up to this point provides three reasons for holding this concurrent review at Milestone II. First, the demonstration and validation studies should provide enough knowledge about the alternatives explored to allow reasonable decisions to be made as to which options best fit within existing goals. Second, since resource commitments begin to grow at this point, it is appropriate to take a hard look at each program before proceeding. Third, in our proposal, this decision tentatively sets aside resources for the program in the Department's long-range roadmap.

From a procedural standpoint, this concurrent review could be accomplished by asking the DAB and JROC to prepare an issue paper on projected Milestone II reviews for the annual program and budget reviews, along with an analysis of the projected impacts of tentative decisions on the modernization roadmap. Alternative decisions could be described and analyzed. The DPRB would review these and offer its assessment for the subsequent Milestone II decisions. The Milestone reviews and decisions could then reflect these assessments.

c. Validating Program-Level Analyses and Data as a Basis for Decisionmaking

Chapter V concluded that program-level analyses should provide an important link between acquisition programs and strategy. However, they often themselves become part of the competitive advocacy process. Hence, some discipline needs to be imposed on program-level analyses to ensure they are consistent with integrated planning scenarios,

be deployed in large numbers, and therefore could pass Milestone II and enter full-scale development without identifying production funding in the investment roadmap. See, 1990 Defense Science Board Summer Study: "R&D Strategy for the 1990's, Summary Briefing," undated.

goals, and roadmaps. Three specific steps are recommended to ensure program-level data and analyses are adequate to support the Milestone II review and selection process:

- The DAB should be presented theater-wide, or mission-area, assessments that consider broad tradeoffs among the program options under consideration as well as between these options and other programs.
- The DAB should confirm the consistency of the scenarios, operational objectives, and operational strategies used in these program-level analyses with those used in joint military planning and the DPG.
- The DAB should confirm the data on costs, schedule, performance, and threats used in these analyses. In particular, emphasis should be placed on prototyping and testing critical technologies, and examining system integration issues in the demonstration and validation phase in order to develop adequate information on the expected costs and performance of a proposed option.

Combat analysis of programs can be done on several levels: one-on-one, small unit, tactical, mission, or global. One-on-one and small unit analyses are needed to develop the information on the expected performance of possible weapon programs. However, weapon capabilities are interrelated; therefore, to fully comprehend possible tradeoffs, potential weapons also must be considered at the mission or global level. Milestone II is the appropriate point for such analyses to be carefully reviewed because it is at this point that each program option must compete for funds with a full range of alternative modernization programs.

In sum, Milestone II should provide the critical decision point for ensuring that the major programs chosen to move into full-scale development and production fit within the overall roadmap for modernization. The overall modernization program developed through this process includes the set of individual modernization programs that the DAB, DPRB, and JROC agree provide the best building blocks for developing integrated forces within projected budgets. *Thus, if a program is consistent with the roadmap, it is part of the integrated program and is therefore linked with strategy.*

D. CONCLUDING REMARKS

This chapter has offered a prototype system for managing DoD modernization programs that supports Secretary Cheney's DMR reform agenda, without requiring radical overhaul of the DoD's existing organizations and management processes. The prototype includes an improved staff planning process, a stronger *Defense Planning Guidance*, and procedures to link the existing decision making process with the *Guidance*. In designing this system, more radical, far-reaching reforms were considered. One proposal considered

was to develop programs and budgets organized by CINC mission areas. Another was to increase the role of the White House in defining integrated defense programs, along the lines of the process established by Secretary McNamara in the Kennedy Presidency. After reviewing such alternatives, we have concluded that pursuing them would be unwise. New approaches would be counterproductive as long as the system is still accommodating the changes set out in the Goldwater-Nichols Act, the Packard Commission, and the *Defense Management Report*. The actions we recommend support ongoing reforms, and we believe they are sufficient to substantially strengthen the linkage between acquisition and strategy. Chapter VII provides an agenda to begin implementing this proposed management system.

VII. AN AGENDA FOR STRENGTHENING THE LINKAGE

The *Defense Management Report*, issued by Secretary Cheney in July of 1989, set an agenda for strengthening the defense planning and guidance processes within the DoD.¹ Continued efforts are needed to define and establish the long-range planning framework consistent with the goals of the DMR, and to link this planning with decision making. The prototype management system outlined in the preceding chapter is intended to achieve substantial progress in developing the needed framework for planning and decision making within the DoD's existing management organizations and processes.

The agenda includes strengthening planning and guidance, revising resource allocation procedures so that decision making links programming and budgeting with planning and guidance, and revising DAB and JROC procedures to establish an overarching framework for managing modernization. The steps proposed are as follows:

1. **Complete the development of Investment Area Assessment tools and data bases within the Office of the Under Secretary for Acquisition.**
 - Prepare these in USD(A) with the help of the Services.
 - Create a first cut based on existing plans, master plans, and mission area summaries.
 - Integrate these so that investment area options for individual programs can be linked to Joint Staff force goals.
 - Structure the analysis to provide needed products: resource roadmaps, infrastructure and technology goals, and affordability assessments.
2. **Establish Procedures for Meshing Joint Military Force Planning with OSD/Service Investment Area Assessments.**
 - Define mission areas as appropriate to correspond with major strategic choices. The CJCS should create task teams from CINCs, JCS, and the Services as needed for each major mission area.

¹ A progress report on implementation of the DMR recommendations was issued by Secretary Cheney on January 11, 1990. The DMR proposals address a wide range of long-standing concerns with defense management, with a heavy emphasis on the acquisition process. In the area of acquisition management, the DoD has accomplished several goals.

- Structure force planning so that the force goals considered can be linked to strategic objectives, operational strategy, force, and resources stipulated by the Secretary in a Planning Initiation Memorandum.
 - Structure force planning so that it meshes with the OSD/Service investment area assessments.
 - Structure the analysis to provide needed products: force goals and risk assessments.
- 3. Test the proposed planning process.**
- Issue a Planning Initiation Memorandum in the fall of 1990.
 - Conduct the analyses outlined in steps 1 and 2 above for the cases stipulated by the Secretary in the Planning Initiation Memorandum.
 - Publish an Integrated Options Memorandum (IOM) summarizing the results of these analyses by the summer of 1991.
- 4. Incorporate the results of the planning test cycle in the *Defense Planning Guidance* to be issued in 1991.**
- The DPG should incorporate planning scenarios, goals, and roadmaps based on the planning process.
- 5. Adopt DPRB procedures to incorporate elements of planning in the program and budget reviews for FY 1993-1998 programs and the FY 1993-94 budgets.**
- Base Service POMs on the goals, milestones, and roadmap in the *Defense Planning Guidance* to be issued in 1991.
 - Incorporate the DPG's long-range goals, milestones, and the financial roadmap in the DPRB program and budget reviews scheduled for the Summer of 1991.
 - Revise the goals, milestones, and roadmap based on DPRB decisions.
 - Subsequently, review program progress using the long-range goals and milestones as yardsticks.
- 6. Use the DAB and JROC for management of the overall modernization program.**
- Manage a competition of ideas at Milestones 0 and I.
 - Provide needed program focus at Milestone 0 by appointing a program manager.

- At Milestone 0, focus on the military capability alternatives to be explored. Focus on defining the threat drivers that should shape programs and on identifying make or break critical technologies associated with alternative solutions. Use these to establish appropriate selection/approval criteria for Milestones I and II.
- At Milestone 0, delete requirements to focus on affordability, life-cycle costs, and acquisition strategy, because these requirements encourage program sponsors to narrow in on specific programs too early.
- Base Milestone 0 and I reviews on the DPG's scenarios, goals, and roadmap to ensure the range of options explored is consistent with overall modernization objectives.
- Solicit or commission alternative study teams as needed to ensure the appropriate range of technology options is considered. Provide the Under Secretary for Acquisition with the required funding.
- At Milestone I, insist on useful competitive prototyping for demonstrating and validating concepts.
- Mesh each major program plan with the long-range investment roadmap at Milestone II. As a practical matter, this step links the program with the overall strategy and projected budgets.
 - Jointly review programs in the DAB, DPRB, and JROC at Milestone II.
 - Pass only those programs with funding allocated in the roadmap.²
 - Earmark funding in the roadmap for each program passing Milestone II. This is a tentative long-range commitment to the program.
- Confirm the validity of program-level data as a basis for decision making, particularly at Milestone II.
 - Require theater-wide assessments that consider broad tradeoffs.
 - Confirm the consistency of analysis with Joint Military Planning and the *Defense Planning Guidance*. (For example, are assumptions consistent on planning scenarios, operational objectives, and operational strategies?)
 - Confirm data on costs, schedule, performance, and threats. Include as decision criteria prototyping results that validate data on costs and performance.

² As noted in Chapter VI, if a "fast track" prototyping approach is adopted, as recently recommended by the Defense Science Board, such "fast track" programs should be identified at this point.

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